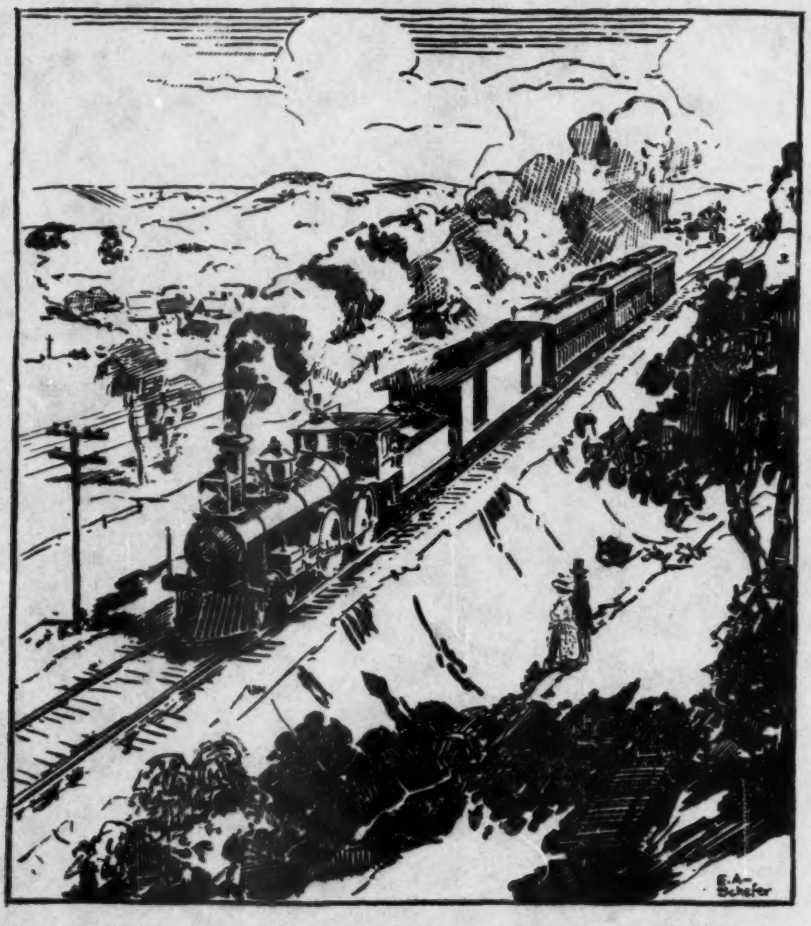
BULLETIN

No. 41



THE RAILWAY AND LOCOMOTIVE HISTORICAL SOCIETY

BULLETIN No. 41

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During the past few months, your Editor has received a number of letters from our members in the matter of contributions to our publication. Lest there be some doubt still in the minds of some of us, a frank expression relative to our publication may not be amiss.

These bulletins represent the efforts of our members. Our members alone are the only ones permitted to submit material to our columns. Consequently, your Editor depends solely on such material as may be submitted either to him directly or through the various Chairmen. Sectionalism does not enter the judgment of material at all because railroad history is railroad history no matter where the subject in question is located.

During the past few years some of our members have done very fine work in treating the subjects in their locality or with which they were familiar. We hope that additional material of this sort will be received and we commend their efforts to the others.

The ideal make-up of our publication is to have a paper from each section, but the fact that it takes time and research work to prepare this material frequently prevents our receiving papers from all of the sections. With this in mind, to those of you who desire to see contributions in our columns covering the history of roads in your section, we earnestly suggest that you undertake the effort of gathering this material and preparing it for publication. Such assistance as we can render here at the Baker Library, will be gladly given. There remains much to be done and with the passing of time and the consolidations of railroads some of this material will soon be unavailable.

With these facts in mind, I am sure that our members will readily appreciate the situation and it is with the hope that more of our members can be induced to collate and to contribute their efforts to the success of our publications.

Our Extra Publications

This summer, your Society in connection with the Harvard Business School, issued a fac-simile reprint of the pamphlet—"Documents Tending to Prove the Superior Advantages of Railways and Steam-Carriages over Canal Navigation," by Col. John Stevens, published in 1812. Col. Stevens has been rightly called the "Father of American Railroading" and the arguments and the ideas he advanced over a century ago are of decided interest. Very few of the original pamphlets are known to exist and we are glad to be able to furnish our members with a copy.

This fall, we issued Part 1 of the Locomotives of the Chicago, Burlington & Quincy R. R. This is a check list of all of the locomotives on that system in 1904 to date. The present system of numbering was effective in 1904. This list is extremely interesting and valuable and is very complete. There are sixteen illustrations.

Prices of either of these publications is $1.00 per copy and the edition is limited. Consequently, if you desire a copy of either or both you should not delay too long as they are not included with the dues of our Annual Members. In this connection, the supply of our bulletins issued prior to No. 20 will soon be exhausted, those that are still in print. If you wish to complete your file, now is the time to do it. Copies of these extra publications can be procured from your Editor.

The Pennoyer Prints

Last December, one of our members ordered a large number of these sets in order that he might give a set to each of his friends for a Christmas present. This set of prints is about the finest that has been produced in recent years as they depict accurately early locomotives and scenes. The set includes "Snowbound"—a Crampton type of locomotive used on the Camden & Amboy R. R. in the fifties with her nose poked into a snow bank; the "Pioneer" of the Cumberland Valley, built by Seth Wilmarth of Boston, in 1851 with a typical station scene; "An American Express Train" drawn by a Rogers locomotive of the seventies swinging along with her train; and, through the kindness of the Delaware & Hudson R. R., we are able to include the "Stourbridge Lion," first locomotive imported to America in 1829 in a scene depicting the first trial run of this locomotive.

The artist—Mr. A. Sheldon Pennoyer, and one of our members, has more than caught the spirit of the times and these locomotives and trains, in their colors, almost live. The size of the "Pioneer" is 7x11"—the other three are 8¼x10½". This does not include the broad white margins. The price is $5.00 per set and there are still some sets remaining. On the other hand, if many of our members order these sets for Christmas gifts, the supply will soon be exhausted. You should order them as early as possible from Chas. E. Fisher, 51 Newbury St., Newton Centre, Mass.

New York and Pennsylvania Railway

By Capt. Winfield W. Robinson

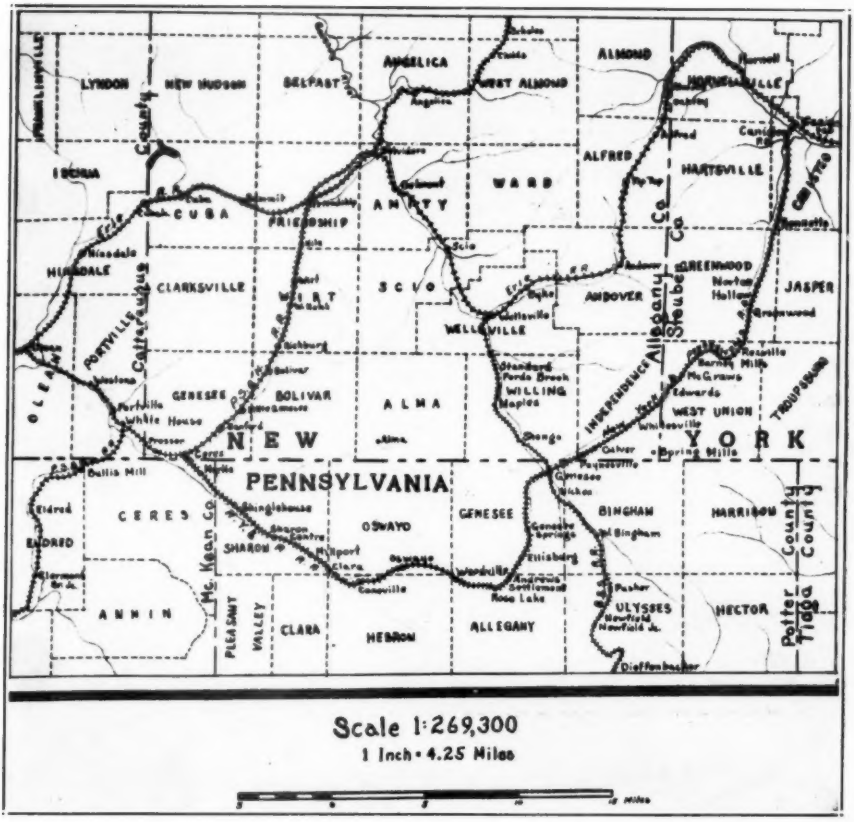
DURING the early autumn of 1935 articles appeared in several of the newspapers of Western New York announcing that the line of the New York and Pennsylvania Railway, from Canisteo to Ceres, a distance of nearly sixty miles, was to be abandoned, due to the havoc caused by the floods in July, and that operation would cease in December.

The history of this railroad is interesting. It served a territory which, for its size and remote location, probably as much as any other section of the country, was a bee hive of industry in the early years of the railroad's existence, with saw mills, tanneries, barrel header and stave factories, grist mills, planing mills, large deposits of glass rock with a high percentage of silica, natural gas and a prosperous, diversified agricultural region. A window glass factory covered nine acres, employed 300 men and was said to be the largest of its kind in the country. Surely it was a fair land in the sight of its inhabitants.

One of the leading and progressive citizens of this region was William W. Crittenden of Oswayo who had lived there many years and was a large lumber operator, conducted several tanneries and was interested in other industries. He and his associates were not satisfied with the out-of-date methods of transportation at hand. Their logs had to be floated down the Oswayo River to the saw mills at Weston's mills on the Allegany River close to the city of Olean. Their tanneries worked on South American dry hides which had to be hauled 25 miles from Wellsville over dirt roads, bad in the winter and spring seasons, and then the leather, after the tanning process, had to be hauled back to Wellsville for shipment. Everything had to be done with horses.

Mr. Crittenden and his associates resolved that a better means of transportation must be had to serve the tanneries, get the lumber to market and handle the commerce of the valley, and it was determined that a railroad would be built. Joseph B. Rumsey, a successful business man of Columbus, Ohio, a brother in law of Mr. Crittenden, was induced to move to Oswayo and take charge of the active railroad operations.

October 20, 1892 there was incorporated under the laws of Pennsylvania the Olean, Oswayo and Eastern Railroad Company, "to be constructed from the village of Genesee Forks to the village of Oswayo, wholly within the County of Potter, State of Pennsylvania." General offices were to be at Oswayo and the officers were Joseph B. Rumsey, president; William W. Crittenden, vice president; J. Walter Wells, secretary; A. B. Payne, treasurer; David N. Rumsey, superintendent. Construction commenced in 1893 at a junction with the Buffalo and Susquehanna Railroad in Genesee, and was completed that year west to Ellisburg, following the west branch of the Genesee River, five miles, and the first locomotive was then purchased and put in service. It is interesting to note that the Pennsylvania Railroad's number, 54, was continued, but the tender was painted over and bore the inscription "O. O. & E."



Map of New York & Pennsylvania R. R.

New York & Pennsylvania Railway Company

TIME TABLE No. 26

Taking Effect at 12.01 A. M. Monday, Dec. 26, 1910. Superseding Time Table No. 25 Dated Nov. 1, 1909.

WEST BOUND								EAST BOUND							
Second Class			First Class						First Class				Second Class		
10	8	C	4		2				1		3		5		7
A. M.			P. M.		P. M.			Dep. Arr.	A. M.		P. M.		P. M.		
				5.47		9.09	0	CANISTEO [Erie R. R.]	0		9.05		3.24		3.20
			6.20	s	6.55	s	9.24	6	CANISTEO [N. Y. & P. R'y]	6	s	8.59	s	3.20		3.15
			6.09	f	6.09	f	9.39	5.7	BENNETTS	6.3	f	8.46	f	3.05		2.38
			6.07	f	6.14	f	9.44	2.4	NORTON	8.7	f	8.40	f	2.59		2.30
			7.15	s	6.20	s	9.50	1.7	GREENWOOD	10.4	s	8.36	s	2.55		2.21
			8.25	s	6.32	s	10.00	3.7	REXVILLE	14.1	8.25	s		2.44		2.00
			8.36	f	6.38	f	10.08	2.5	BARNEY MILL	16		8.13	f	2.37		1.45
			8.46	f	6.43	f	10.13	1.8	MOSHER	17		8.08	f	2.32		1.40
			8.49	f	6.47	f	10.17	1.4	EDWARDS	18		8.03	f	2.28		1.36
			9.04	s	6.52	s	10.22	1.9	WELLSVILLE	20		7.58	s	2.23		1.31
			9.17	f	6.58	f	10.28	2.8	CULVER	23		7.52	f	2.17		1.25
			9.23	f	7.01	f	10.31	1.3	PAYNESVILLE	26	f	7.65	f	2.14		12.58
			9.37	7.07	arr	s	10.39	1.7	GENESEE	27.7	s	7.51	s	2.10		12.45
				7.09	dep											
			9.51	f	7.18	f	10.45	3.3	GENESEE SPRINGS	31	f	7.40	f	1.59		12.24
			10.02	s	7.27	s	10.50	1.6	KELLOGG	32.5	s	7.37	s	1.56		12.19
			10.11	f	7.27	f	10.56	1.6	ANDREWS SETTLEMENT	34.2	f	7.34	f	1.53		12.02
	A. M.		10.14	f	7.30	f	10.6	.8	ROSE LAKE	35	f	7.31	f	1.51		11.59
			10.26	f	7.36	f	11.03	2.9	WOODVILLE	37.6	f	7.23	f	1.43		11.48
	11.15		10.51	s	7.46	s	11.12	3.5	OSWAYO	41.1	s	7.15	s	1.35		11.37
	11.25			f	7.50	f	11.17	2.6	CONEVILLE	43.7	f	7.06	f	1.26		A. M.
	11.3	A.M.		f	7.5	f	11.21	1.5	CLARA	45.2	f	7.04	f	1.24		
A. M.	11.52			s	8.02	s	11.26	1.7	MILLPORT	46.9	s	6.59	s	1.19		
	12.02			f	8.07	f	11.30	1.7	SHARON CENTER	48.6	f	6.55	f	1.15		
7.40	12.25			s	8.15	s	11.38	3.1	SHINGLE HOUSE	51.7	s	6.46	1.07	s		dep
													12	M.		8.25 arr.
7.56				f	11.46	3.4	MYRTLE	53.1	A. M.	f	12				
7.58	P. M.		P. M.		11.49	3	P. S. & N. JUNCTION	53.4			12.02				
8.0				s	11.51	3	CERES	56.7		s	12.00				
A. M.					A. M.		Arr.	Dep.			M.				A. M.

In 1894 construction was completed to Oswayo, 14 miles all told, fulfilling the requirements of the company's charter, and for the time being no attempt was made to proceed further west, although every one understood that the ultimate destination of the line was to be the city of Olean.

In 1895 it was decided to construct easterly. To do this required additional capital and it was at this time that the Cobbs of Spring Mills, a most estimable family and extensive land holders, were interested in the proposition, they assisting materially in the raising of the necessary funds. The village of Genesee (Genesee Forks as it was known in those days) is on the boundary line between the two states. Less than a quarter mile of grading brought the contractors to the state line. To proceed further it was necessary to secure authority in New York. Therefore, under date of July 22, 1895 there was incorporated the New York and Pennsylvania Railroad Company, the incorporation papers showing the Cobbs, Rumseys and Crittendens as the principal persons interested. The charter stated, "This company is authorized to build, maintain and operate by steam a railroad from the city of Hornellsville through the counties of Steuben and Allegany to the village of Genesee, Pa., thirty miles, and there connect with the Buffalo and Susquehanna Railroad in the township of Willing, Allegany County, New York." Contract for the construction of 14 miles of this road from Genesee to Rexville, following Cryder Creek, was thereupon made, at a cost of $134,000, and was completed in 1896 and then construction continued north from Rexville, following Bennett Creek, to a connection with the Erie Railroad at Canisteo Valley on the northerly outskirts of the village of Canisteo. The first train from the Erie depot at Canisteo Valley to Oswayo was run November 24, 1896. The officers of the N. Y. & P. R. R. were William Cobb, president; Benton McConnell, vice president; Irwin W. Near, secretary; William Richardson, treasurer; the latter three from Hornellsville. Principal office at Canisteo.

June 22, 1896 a new charter was granted to the New York and Pennsylvania Railroad Company as a consolidation of the N. Y. & P., and the O. O. & E., the object of the formation of the new company being "to connect Potter and the adjoining counties in Pennsylvania and the counties of Allegany and Steuben in New York by a railroad with railroads passing through and having terminals and connections near the city of Hornellsville." The new company was capitalized at $500,000 and assumed a first mortgage bond of the O. O. & E. of $70,000 and a first mortgage bond of the N. Y. & P. of $310,000. Total line 41 miles. Entire cost of road and equipment $842,000. It owned 3 locomotives, 2 combination cars and 23 flat cars. Officers were William Cobb, president; Benton McConnell, vice president; Irvin W. Near, secretary; William Richardson, treasurer; George N. Orcutt, counsel; Joseph B. Rumsey, general manager; George W. Pierce, chief engineer; Theodore Cobb, assistant secretary and assistant treasurer; William W. Crittenden, general superintendent; David N. Rumsey, superintendent; Homer J. Rumsey, general freight and passenger agent; general offices, Canisteo. The report to the Board of Railroad Commissioners for the

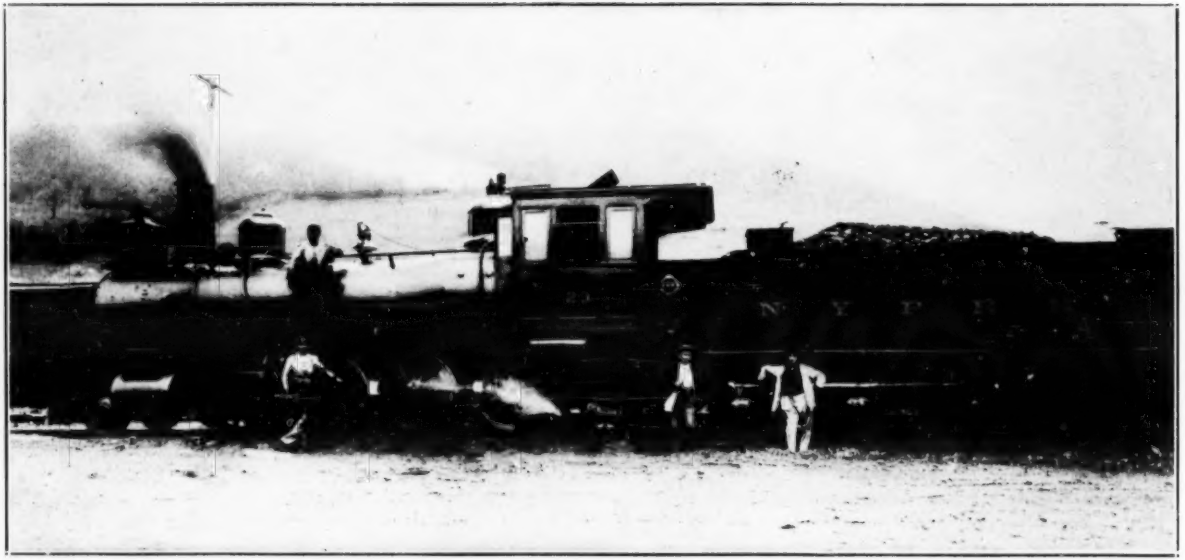
year 1897 showed: Earnings, passenger $7,183; freight $20,557; mail $636; express $443; total $28,821; gross net income $9,375.

July 18, 1901 there was incorporated under the laws of Pennsylvania the Sharon and Ceres Railroad Company with Fred C. Leonard of Coudersport as president, the other promoters being the persons who organized the original N. Y. & P. Railroad. Under this charter the company constructed westerly from the village to Oswayo, following the valley of Oswayo Creek, and completed through Coneville, Clara, Millport, Sharon Center and Shingle House to Ceres, finishing at the latter place December 9, 1901. The cost from Oswayo to Millport was $58,400, and from Millport to Ceres $33,644. To effect a connection with the Pittsburg, Shawmut and Northern Railroad, which was across the state line, the promoters organized the Sharon and Ceres Terminal Railroad Company, a New York corporation, capitalized at $10,000, under which charter they secured the right to construct one-quarter mile of railroad from the state line to the Ceres depot. When this was completed the N. Y. & P. became the lessor of the S. & C. and the S. & C. T. railroads.

Through the influence of the New York people, in 1899 George R. Brown of Corning had been appointed General Manager, replacing Mr. Rumsey. For many years Mr. Brown had been superintendent of the Fall Brook Railroad until that company was acquired by the New York Central. This appointment, together with the removal of the general offices to Canisteo, seems to have been the beginning of troubles in the company's official family, with the interests who had sponsored the O. O. & E. on one side and on the other side the New York persons who backed the original N. Y. & P. In 1901 a law suit commenced between the two factions for control of the railroad, which hung fire in court a considerable time. February 1, 1902 a Supreme Court action to foreclose the mortgage was instituted and Frederick D. Sherwood of Hornellsville and Fred C. Leonard of Coudersport were appointed trustees, the company going into receivership February 5, 1902 with George R. Brown as receiver. At the same time the company defaulted upon the interest on their bonds for January. May 24, 1902 the trustees sold the railroad under foreclosure of the mortgage, Referee Monroe Wheeler presiding, and the property was bid in by the Cobbs for $240,000. Legal technicalities were brought forward to set aside the sale, but the matter was finally settled in April 1904 agreeable to both parties, a sum being paid the Oswayo owners for their interest in the property. This left the Cobb family in control of the railroad and the receivership of Mr. Brown was vacated as of June 30, 1904.

July 1, 1904, following the termination of legal difficulties and receivership, the line was reorganized as the New York and Pennsylvania Railway Company, being a consolidation of the N. Y. & P. Railroad, the S. & C. Railroad and the S. & C. T. Railroad, with capital of $570,000. The officers of the new corporation were Theodore Cobb, president; William Cobb, vice president; Fordyce A. Cobb, secretary; Howard H. Cobb, treasurer; Ahrling Cobb, general manager; Guy M. Beasor, general freight and passenger agent; general offices at Canisteo. The report

O. O. & E. R. R. Construction near Genesee 1893.



N. Y. & P. R. R. #29. Baldwin, 1890.

for that year shows the main line, Canisteo to Ceres 56.13 miles, sidings 7.69 miles, 6 locomotives, 2 passenger coaches, 3 combination cars, 30 flat cars, 2 cabooses. Arrangements were made for the coaches on the four passenger trains to run between Ceres and Olean over the tracks of the P. S. & N., hauled by the latter's trains.

There seems to have been a spell of quietness between 1905 and 1916 during which the railroad was operated with more or less success. With the exhaustion of the hemlock supply the tanneries had gone out of business, lumbering was fast disappearing and the factories making barrel ends and staves for the sugar trust had closed because of lack of hard wood. But there was a large amount of live stock being raised and shipped, natural gas wells were being drilled all through the valley; hay, grain, buckwheat, potatoes, milk and other products were being sent out by freight; and coal, fertilizer and manufactured products coming in. Chemical plants had been constructed at Millport, Coneville and Genesee which gave a large volume of traffic to the road. In one autumn month 11,000 tons of hay and potatoes were shipped from Greenwood and 102 full car loads of freight were shipped out of the Whitesville depot, besides local freight, expressage, etc. Taking one year as an illustration, the freight moved was flour, grain, meats, provisions, live stock and lumber 46%; iron and steel, coal and coke, petroleum and manufactured articles 44%; miscellaneous 10%, and the net profits for the year were nearly $30,000.

In 1896 the O. O. & E. commenced the operation of two passenger trains and two freight trains on regular schedule in each direction daily between Oswayo and Genesee and this was continued by the N. Y. & P., the runs of the trains being extended as additional mileage was constructed. The passengers averaged between 150 and 200 daily and while the Hornellsville fair was in progress in the fall they carried over a thousand passengers each day in that week. Numerous extra freights were put on. Many week-end excursions and Sunday specials were run and these trains proved very profitable to the company. Later on, with the increased use of private automobiles, the passenger service was reduced to one train daily in each direction and early in 1917 such service was entirely discontinued.

A Pennsylvania publication, commenting upon the plight of the company at the time of the World War had this to say in regard to the decline in traffic:

"The business of the New York and Pennsylvania Railway decreased in volume with the decline of the lumber industry, and finally ceased to pay operating expenses, but service was maintained, with two passenger trains each day, down to the close of this period, though the resources of the road did not admit of keeping it in very good shape. The exhaustion of the timber supply resulted in a considerable decrease in the population of the territory transversed by the railroad. In 1907 the sand-lime brick works at Genesee went into bankruptcy and closed. In April 1909 the plant of the Palmer Window Glass Company at Shingle House had become financially involved due to dull times in the glass business, labor troubles, etc., and was closed. The Empire Window Glass Company, the Elk Flint Bottle Company, and the Wolcott Gasoline factory also closed and have never been reopened. A disastrous fire in Shingle House in March 1909 destroyed hotels and stores in the business district. The railroad depot at Genesee burned in October

1912 and was not replaced, an old passenger coach now answering for a station. The Puritan Glass Works in Shingle House were junked in 1919. The heading mill in Oswayo closed in December 1916 removing the last industry from that village. The Oswayo Valley Silk Company at Shingle House closed in 1919 and a large fire in that village in March destroyed the bank, two hardware stores, drug store and shoe shop. There was a bad fire in Genesee in April 1898 destroying part of the village. The plant of the Penn Tanning Company at Oswayo burned in January 1903 and was not rebuilt, and the tannery at Shingle House closed in that year."

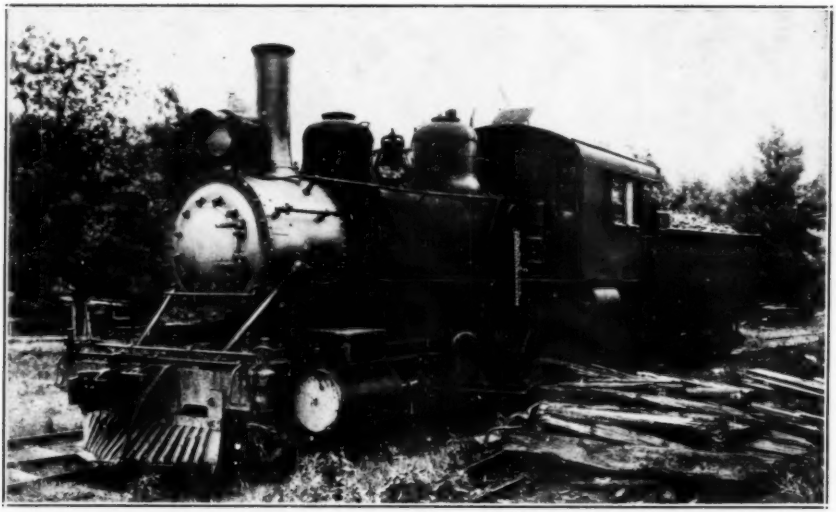
December 1, 1917 the N. Y. & P. discontinued operations in New York State, for which it received the approval of the Public Service Commission in March 1918. The crisis was brought about by a monthly deficit extending over several years, making continued operation unprofitable, and the fact that the price of steel and materials became so high, because of war necessities, that the owners could realize $325,000 by sale. It was the intention of the company to junk its New York State mileage and nine miles of rails were actually taken up. The company attempted to abandon operations in the State of Pennsylvania also, but because of the opposition of certain industries (the chemical plants) supplying materials to the United States Government for war purposes, there was only a partial cessation of operations in that state. Property owners, business interests and other individuals and corporations along the line of the railroad in New York became desirous of having operations of the line resumed and entered into an agreement to refund the company's obligations and provide money for the improvement of facilities and for the improvement and maintenance of the service by purchasing at par a proposed issue of mortgage bonds of the railway. January 27, 1920 the Commission authorized the New York and Pennsylvania Railway to execute a mortgage upon all its plant property, dated January 1, 1920, to secure an issue of first mortgage 5% 20-year bonds to the amount of $350,000. The money was raised, the removed track restored and the line put in shape for service. Operations were resumed in the early part of 1920, for freight service only. The officers of the reorganized company are Thomas W. Camp, Smethport, president; John R. Lavens, Bradford, vice president; Churchill Cobb, Smith Mills, secretary; Newton E. Coston, Greenwood, treasurer; Howard H. Cobb, Ithaca, counsel; Guy M. Beasor, Canisteo, general manager; offices at Canisteo.

For the past few years service has been restricted to one freight train daily in each direction with a second locomotive in the yards adjoining the Erie at Canisteo. The annual report for the year 1934 shows as follows: 4 locomotives, 1 passenger coach, 4 freight cars. Employees 24. Net loss $23,502 compared with a loss of $19,310 in 1933 and $15,213 in 1932. Total deficit $118,015.

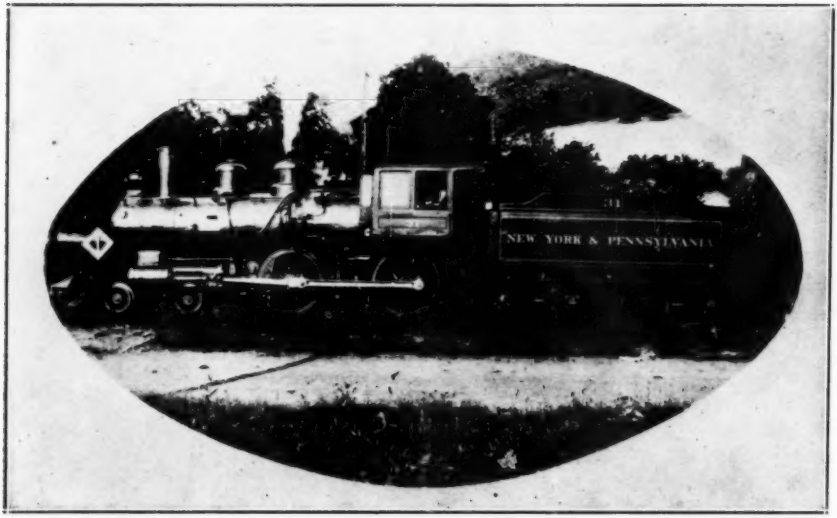
The company has transacted all its business, train movements, etc., over its privately owned telephone line. Several of the depots had Postal Telegraph connection, but this was for public business only. Wells Fargo express operated over the line.

After the flood waters had subsided in July 1935 it was found that much damage had been done to the right of way for a distance of nearly ten miles south of Canisteo, bridges and tracks washed away. Engineers

Train at depot at Shingle House, N. Y. & P. Ry. Loco. 54.



N. Y. & P. Ry. Loco. 128.



N. Y. & P. R. R. #31. Baldwin, 1911.

estimated that to repair this damage and put the entire line (it being badly run down) in good condition would cost nearly $100,000. Application was made to the Reconstruction Finance Corporation for a loan of this sum, which was refused. During the summer and autumn a number of stockholders' meetings were held to consider future plans and finally, at the November meeting, it was voted to discontinue operations. The consensus of opinion was that, inasmuch as the road had been losing money for several years past, with the gloomy outlook ahead for short line railroads, it would probably be impossible to secure the necessary funds with which to reconstruct. What business is left in the valley will go to the motor trucks. Next summer the right of way will be overgrown with weeds and brush.

At the close of this narrative tribute is paid to one person, Guy M. Beasor, who saw the project start and now sees it finish, a man who has devoted the better share of his life time to the service of this railroad and now seems about to be deprived of the reward which is justly due him. Previous to 1893 Mr. Beasor had been a clerk in the Buffalo office of the Wagner Sleeping and Parlor Car Company, a subsidiary of the New York Central. Upon the organization of the O. O. & E., he became chief clerk in the general offices at Oswayo and has remained faithful, through thick and thin, good and bad times, to his trust. By loyalty, efficiency and honesty he rose to his present position and if the truth were known it has been due largely to his efforts that the railroad has been kept in operation the past ten or more years. His title of General Manager embraces the duties of general freight agent, maintenance of way, superintendent, purchasing agent, auditor, traffic manager, superintendent of rolling stock and a multiplicity of other duties. Of the other persons who were interested in the railroad forty years ago, practically all are dead and gone now.

The following list comprises such of the older employees as remained with the company a sufficient number of years to bring them in the scope of having played a part in it during the successful years:

ENGINEERS

1. William Judd. Wellsville. Was Fireman on the Wellsville, Coudersport & Pine Creek R. R., and upon opening of the O. O. & E. became its first engineer. Moved with his family to California.
2. Clarence Brizzee. Born on farm two miles from Oswayo. Commenced as Fireman and promoted to Engineer. Ran five years. He was the first fireman on the road, for Wm. Judd. When second engine was bought and put in freight service he was promoted to engineer. Resigned during receivership and now lives in Oswayo, retired.
3. Frank Ayres. Oswayo. Commenced as Fireman on O. O. & E. Promoted to Engineer. Went to Penna. R. R. as Engineer and died at Olean.
4. Reuben E. Coates. From near Andrews Settlement. Commenced as Fireman in 1896 and in fourteen months was promoted to Engineer. Ran 7 years and then went to P. S. & N. R. R. as fireman, working out of Angelica. Then went to Buffalo to run stationary engine for the Buffalo, Orchard Park and Hamburg trolley line. Now lives in Buffalo, retired.
5. Carl Flohr. Canisteo. Commenced as Fireman. Now the senior engineer on the road and lives at 3 Bennett St., Canisteo.

6. Frederick Haines. Wellsville. He was an engineer on the Erie R. R. working out of Hornell. During receivership the N. Y. & P. needed an engineer and Mr. Haines was induced to leave the Erie and go with the N. Y. P. Now lives in Portland, Maine.
7. R. Harry Packard. Shingle House. Fireman and engineer. Died in Shingle House in 1933.
8. Martin C. Sherwood. Ellisburg. Started as station agent, then fireman, promoted to engineer and ran a number of years. Now farming near Emporium, Cameron County, Penna.
9. Victor Dewilton. Whitesville. Commenced as fireman; was engineer a number of years. Went to the Pittsburgh & Lake Erie at Youngstown, O., and now in railroad service at Birmingham, Ala.
10. Thomas Talbot. Spring Mills. Fireman and extra engineer. Now farming at North Bingham, Penna.
11. Frederick Manley. Shingle House. Fireman a number of years and extra engineer. Now Vice President of The Texas Co., N. Y. City.
12. Freeman S. Buchanan. Eleven Mile Valley, near Sharon Ctr., Pa. Commenced as fireman in 1902. Now lives in Shinglehouse and is second engineer on the N. Y. & P. by seniority rights. Was furloughed in 1933 when road service was reduced to one engine.
13. Henry H. McIntyre. Hornell. Commenced as fireman and was engineer several years. Resigned and returned to Hornell. Not known whether living or dead.
14. Robert Ostrander. Canisteo. Commenced as fireman in 1919; promoted to engineer. Now is Master Mechanic of the railroad.
15. Fred W. Moore. Canisteo. Commenced as night watchman in 1897 and held several other positions until assigned as fireman. Became extra engineer and later assistant master mechanic. Resigned in 1910 and is now a carpenter in Canisteo.
16. Joseph M. Allen. Canisteo. Entered the service as fireman in 1913. Was promoted to engineer in 1918, and was reduced to fireman in 1933 when business on the railroad slumped. Resigned in spring of 1935 and lives in Canisteo.
17. Fred H. Kemp. Shinglehouse. Entered the service in 1901 as night watchman. Assigned as fireman in 1902. Promoted to engineer in 1904 and held that position until his death at Shinglehouse in 1920.
18. Clark M. Carey. Shinglehouse. Entered the service in 1902 as night watchman. Assigned as fireman in 1903. Later promoted to engineer and was running as such when he died at Shinglehouse in 1929.
19. Charles N. Sutton. Canisteo. Entered the service as freight brakeman in 1913. Later transferred to fireman and was promoted to engineer. Resigned in 1917 and went to the Erie as air brake inspector. Now conducts a gasoline station and lunch room at North Hornell.

CONDUCTORS

1. Eli Getchell Rumsey. Oswayo. Brother of Joseph B. Rumsey. First conductor on the railroad. Dead.
2. John Kelly. Wellsville. Second conductor. Went to the Pittsburg and Lake Erie and is now flagman on railroad crossing in Youngstown, O.
3. Stephen H. Kuhn. Lawrenceville. Third conductor. Was freight and passenger train conductor on the Fall Brook R. R., commencing in 1882. Was induced to come to the N. Y. & P. in November 1900, and is now senior conductor on the road. Lives in Shinglehouse.
4. Arthur J. Vaughan. Oswayo. Fourth conductor. Commenced as section man on the road; became brakeman and then conductor. Now conducts a store in Shinglehouse.
5. Frank L. Reed. Millport. Commenced as brakeman, then conductor 15 years. Went to the Chicago & Eastern Illinois R. R., where he remained about 5 years, then with the D. & H. at Schenectady; then to the General Electric Co., at Schenectady, where he died in 1934.

6. Montross Pepperman. Greenwood. Brakeman and conductor many years. Now runs a saw mill in a lumber camp near Wellsville.
7. Avery B. Cheesman. 51 years old. Commenced with the railroad in the spring of 1906 as carpenter on bridges, which position he held about three years, when he was transferred to train service as a brakeman. He worked as flagman and extra conductor until 1913 when he resigned. Is now a carpenter and lives in Greenwood.
8. Grover D. Peet. Whitesville. Entered service in 1904 as brakeman. Promoted to conductor. Resigned in 1912 and went with the Chicago & Eastern Illinois. Is now employed on state highway work and lives in Canisteo.
9. Lewis E. Horton. Genesee and Canisteo. Was son of the first Master Mechanic of the N. Y. & P. Commenced as brakeman in 1906. Promoted to conductor and remained in service until 1916 when he went to the Erie. Is now a member of the Hornell City Police Department.
10. Miner W. Hilts. Canisteo. Was brakeman and extra conductor from 1910 until 1916. Went with the Erie as brakeman out of Hornell and remained in that service until his death.
11. Carl Robinson. Canisteo. Commenced as brakeman in 1909; promoted to conductor and remained in the service until his death in 1917.
12. Edward Underwood. Canisteo. Was employed on the Erie at Hornell. Went to the N. Y. & P. as conductor in 1900 and held that position until 1908 when he resigned because of poor health and lived but a few years after.

STATION AGENTS

Canisteo. Erie Depot. Joint agency with the Erie R. R.
Canisteo. Village depot. Montague L. Lathrop, resigned; Frederick Wilson, dead; George Wells, resigned; Walter P. Stephens.
Fall Creek. No depot building.
Bennetts. No depot building.
Norton Hollow. No depot building.
Greenwood. Robert Holley, resigned; Jerome Burd.
Rough and Ready. No depot building.
Rexville. John Sweeney.
Barney Mills. No depot building.
McGraws. No depot building.
Edwards. No depot building.
Whitesville. Evan Slade, resigned; Clarence L. Crittenden, resigned; John L. Carpenter.
Culver. No depot building.
Paynesville. No depot building.
Genesee. Seymour Alexander, resigned; Richard Coyle, dead; William H. Curtiss.
Genesee Springs. No depot building.
Chapman's Crossing. No depot building.
Ellisburg. Hartley York, resigned; Martin C. Sherwood, transferred to fireman; Ira Peabody, resigned.
Andrews Settlement. A depot, which is still standing, but never an agent.
Rose Lake. No depot building.
Lewis Crossing. No depot building.
Woodville. No depot building.
Tyler's. No depot building.
Oswayo. Walter L. Drake, resigned; Daniel E. Smith, resigned.
Coneville. No depot building.
Clara. No depot building.
Millport. James M. Stacey, resigned; Leon L. Cole, resigned.
Sharon Center. No depot building.
Shingle House. H. Clair Keller, resigned; Leon L. Cole, resigned; S. Clayton Rundell, resigned; Arthur B. Maynard.
Myrtle. No depot building.
Ceres. Joint agency with the Pittsburg, Shawmut & Northern.

NEW YORK AND PENNSYLVANIA RY. LOCOMOTIVE ROSTER

Number	*Builder*	*Year Built*	*Type*	*Service*	*Purchased From & Year*	*Final Disposition*
54	Pennsylvania R. R. Altoona Shops	1868	4-4-0	Passenger	E. H. Wilson Co., N. Y.—1893	Sold for scrap
1	Pennsylvania R. R. Altoona Shops	1869	2-6-0	Freight	E. H. Wilson Co., N. Y.—1895	Sold for scrap
44	Pennsylvania R. R.	1896	4-4-0	Passenger	F. M. Hicks & Co., Chicago.	Sold for junk
3	Brooks	1898	4-4-0	Passenger	Erie R. R. Co.	Sold for junk
58	Dickson	1880	2-6-0	Freight	D. & H. R. R. Co.	Sold for scrap
29	Baldwin	1890	2-8-0	Freight	Pennsylvania R. R. Co.	Scrapped
152	Schenectady	1894	2-6-0	Freight	Fall Brook R. R.—1899	Scrapped
30	Baldwin	1907	2-8-0	Freight	Baldwin Loco. Works—1907 (New)	On Hand
31	Baldwin	1911	4-4-0	Passenger	Baldwin Loco. Works—1911 (New)	On Hand
32	Schenectady	Rebuilt 1907	2-6-0	Passenger	N. Y. Central R. R. Co.	On Hand
128	Brooks	?	2-8-0	Freight	B. R. & P. R. R. Co.	On Hand

Mason's Bogies

By Chas. E. Fisher

FROM 1853, the year William Mason completed his first locomotive, to 1872, the locomotives built were generally of the standard or American type. They usually had straight boilers and were handsomely proportioned with cylinders from 15 to 17 inches in diameter and drivers of about 60 inches. True, there were some exceptions as in the instance of the ten-wheeled engines built for the Lehigh Valley, some moguls built for the Atlantic, Mississippi & Ohio and some switching engines built for various roads, but the 4-4-0 engines far outnumbered the other types.

After the Civil War the southern roads had to be rebuilt, new roads began pushing westward and the subject of the proper gauge was bitterly fought by their advocates. The building of the Union Pacific R. R. to the present standard—4 feet 8½ inches was a severe blow to those who advocated a narrower gauge and these advocates were numerous on account of the cheapness of construction costs. The value of interchange of equipment, as brought out by the Civil War, had not as yet impressed these promoters and many miles of railroads in the mid-west and west and some in the east, were built of a narrow gauge.

In this turmoil over the gauge, William Mason proceeded to design an engine that would utilize the maximum tractive effort. He realized that the conventional 4-4-0 type, built for narrow gauge, must be limited to a narrow firebox, placed inside the drivers and that the weight on these drivers would not be very great. The first "double ender" was designed by Horatio Allen and built for the South Carolina Canal & Railroad Co. It was named the "South Carolina" and was built at the West Point Foundry (New York City) in 1832. Its two boilers stood back to back and the engine was a failure because the time was not yet ripe for the heavier locomotive.

In the years which followed, several engines of the double end variety were built in England and on the continent but in 1866, Robert F. Fairlie, at that time Locomotive Superintendent of the Londonderry & Colraine Railway in Ireland, built a successful double ended locomotive of the Allen type for a little two foot gauge road called the Festenog Railway, which proved to be a success and aroused the interest of the engineering world. Fairlie continued to develop his idea but limited his engines to one boiler, suspending the firebox between the rear drivers and the tender trucks. This type of engine gained wide popularity for certain service on European lines.

The Fairlie engine appealed to William Mason but he foresaw difficulties in its use on our American roads with their sharp curves. Mr. Mason built his driving wheels and cylinders on a truck or "bogie" frame, consequently they were free to turn around the center pin and thus follow the curvature of the track. The center pin was held by a cast iron saddle attached to the boiler, others placed the center pin to

the main frame of the engine. This plan of Mr. Mason's was satisfactory for the lighter engines but he afterwards attached the center pin to a main frame extending from one to the other, and nearly the whole length of the engine. On his first engines of this type, the tender was carried on a separate frame and was bolted to the sides of the firebox and this was continued, with some modification to the last.

The steam pipe was carried through the front tube sheet in the regular way and then down to the bottom of the smoke-box where it was attached to a horizontal pipe which led back to the hollow bed plate casting in the center of which was a vertical pipe connected with a ball and socket joint and stuffing box. Then a vertical pipe went forward and connected with the branch pipes leading to the cylinders. In this way flexibility of the steam pipes was obtained with only one movable joint. The exhaust pipe had to move with the truck and the petticoat pipe was made oblong at its lower end to take care of the transverse movement of the exhaust pipe.

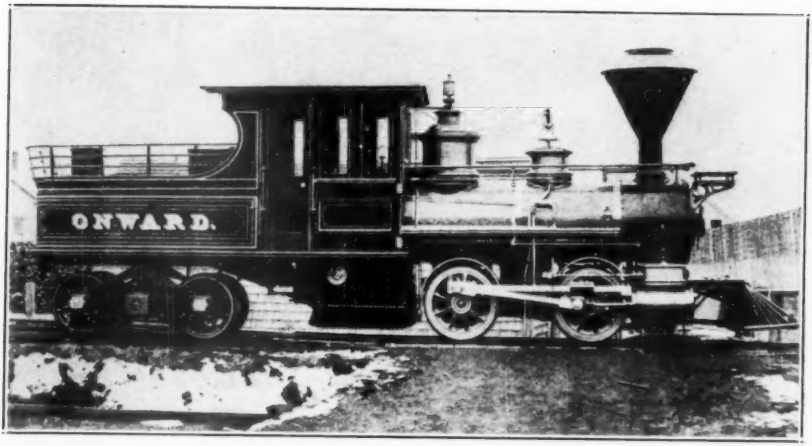
The first engines were equipped with the plain Stephenson gear but on his later engines on account of the closeness of the first pair of drivers he used the Walschaert gear and was the first builder in this country to use this gear to any great extent. The reversing shaft, however, was placed on top of the boiler as clearance did not permit it to be placed underneath as in present practice.

The early engines did not have leading trucks and the majority were of the 0-4-4 type. Flange wear on the first pair of drivers and increasing size of these engines caused him to use a two wheel truck. In all, eight different types of wheel arrangement were built and an illustration of each type accompanies this article. The "Onward," built for the American Fork R. R., was the first engine of this type built by Mr. Mason and was the first "double-bogie" engine with a single boiler built in this country.

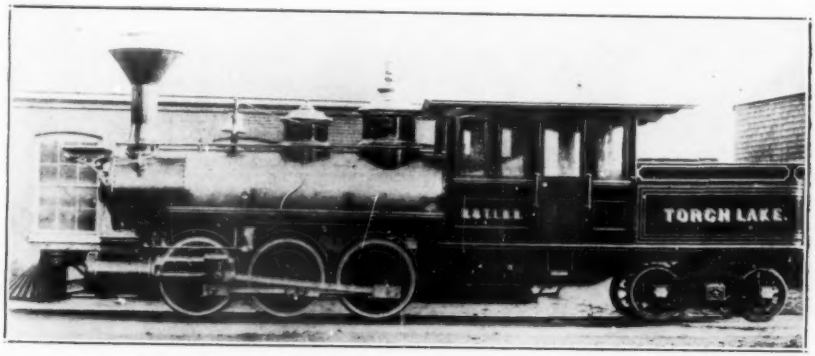
In a file of letters relating to some of the Mason engines which has been preserved, we find that certain features of these engines gave trouble. Records show that the bolts holding the cylinders to the saddle casting would work loose and it was only until more metal was used on the casting, allowing a larger bolt to be used, the bolt holes reamed and the bolts driven home that this trouble was remedied. We know that the bottom center castings for the front trucks gave trouble and heavier castings eliminated this fault and there were doubtless others. Mr. Mason persevered, improving these engines, up to the time of his death and some of his little 0-4-4 engines were positively handsome.

This same file of letters which outlined some of Mr. Mason's troubles also contained words of commendation. Perhaps in no better way can be expressed the merits of this design. We have a letter signed by P. A. Logan of the New Brunswick Ry., outlining the conditions on that road:

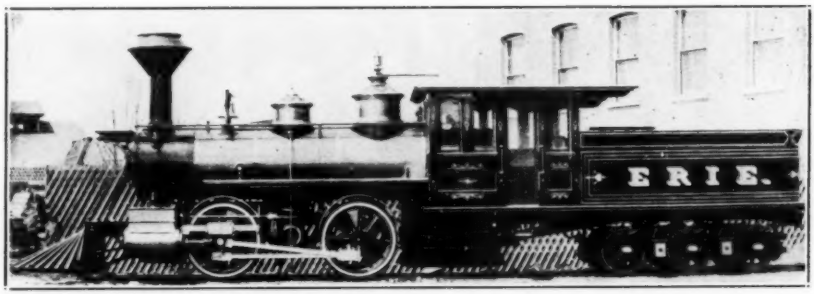
"This road is one hundred miles in length. The first twenty eight miles the grades are short, about one mile in length and 60 feet to the mile. One half of this 28 miles is of curves of 800 ft. radius. The next five miles the grade is 85 feet to the mile with curves of 650 feet radius. The next five miles the grades are 75 and 85 feet with curves of 750 feet radius. The next nine miles are grades of 53 and 65 ft.



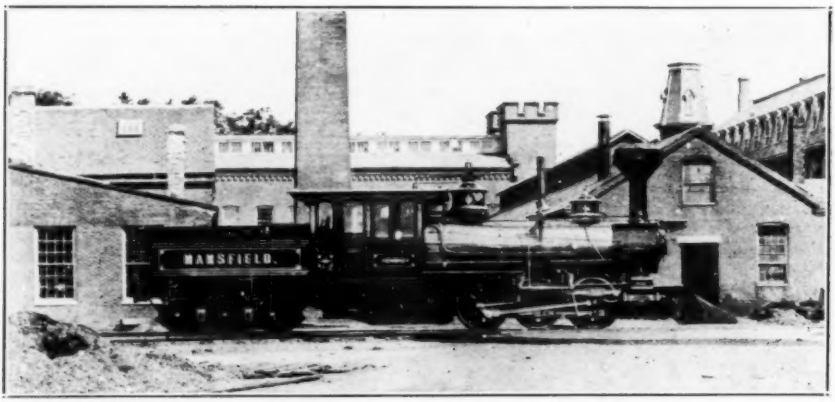
American Fork R. R. #1. Mason #461. July 1, 1872. 10x15" 36". Mason's First Fairlie.



Hecla & Torch Lake R. R. "Torch Lake." Mason #518. Oct. 17, 1873.



Erie R. R. #499. Mason #528. May 9, 1874. 15x22" 48", 27½ Tons.



Burlington & Lamville R. R. "Mansfield." Mason #586. July 7, 1877. 16x24" 48", 71700#.

and about one quarter of this length the curves are 850 feet radius. The next nine miles the grades are 78 feet to the mile and curves of 720 feet radius. The next 39 miles the grades are short, the longest not exceeding ¾ of a mile and with grades of 50 feet. About ¼ of this 39 miles the curves are 1000 feet radius. The engines run the 100 miles in 6 hours and 30 minutes in passenger service and 7 hours and 45 minutes for freight."

Mr. Logan also enclosed some figures relative to the performance of these engines for the months of September, October, and November, 1874:

	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
Diameter of Cyl.	10″	12″	12″	12″	12″	12″	12″
Stroke	15″	16″	16″	16″	16″	16″	16″
Diameter of drivers	33″	36″	36″	36″	36″	36″	36″
Service-Passenger	—	1099	2874	5705	2228	6618	16402
Miles run	3841	3615	3659	6062	3937	6535	8581
Tons of coal used	101	81	70	120	80	110	126
Cords of wood used			Not any				
Quarts of oil used	480	378	340	404	332	405	466
Pounds of waste used	104	70	53	89	72	67	91
Ordinary Repairs	70.78	106.37	180.19	121.02	68.64	188.80	133.92
Extraordinary Repairs			Not any				
Service-Freight	14370	21988	16482	35156	15865	33176	19513

Again, under date of July 9, 1875, Mr. R. Anderson, Gen. Sup't of the Toledo, Wabash & Western Ry. gives the performance of the "Hero" No. 187 which was in service between Toledo, Ohio and Fort Wayne, Indiana:

1874 Month	a	b	c	d	e	f	g	h
August	3000	7704	111	4	129	76.90	32	12
September	2700	7856	118	8	174	65.67	36	12
October	2500	7872	115	6	113	54.40	39	12
November	1300	3560	59	5	64	85.85	34	12
December	2000	5744	99	4	118	51.53	36	12
Total	11500	32736	502	27	598	334.45	35.4	12

(a) miles run; (b) Tonnage incl. wt. of cars; (c) Tons of coal burned; (d) Cords of wood burned; (e) Quarts of oil used; (f) Cost of repairs; (g) Size of train hauled; (h) speed of train per hour.

It was this engine, in charge of Fred Shalling, who accompanied many of the Mason engines to the roads they were delivered that hauled 50 cars of wheat from Ft. Wayne to Toledo and on the return trip hauled 69 cars and caboose, 21 of the cars loaded, from Toledo to Ft. Wayne.

Among the Mason engines delivered to the Illinois Midland Ry. was the "A. G. Hunter," a Mason bogie. In a statement given out by Charles R. Peddle, Master Mechanic at Terre Haute, Indiana, we find the following relative to the "Hunter":

"The engine was put into service January, 1876, and has been almost constantly employed since that time. After running on the main line for about a year, and frequently making a monthly mileage of 4000 miles with success, the engine was put into the Indianapolis yard to move the heavy trains transferred to the Pan Handle yard which our ordinary switch engines were unable to handle on account of the heavy grade on the approach to that yard. The engine was not off the

iron in this service, and on the completion of the Belt railroad, there being no further use for a heavy transfer engine, she was sent back to main line work, and now runs what is called the Greencastle coal train. In this service she hauls daily 30 loaded coal cars, average 12 tons of coal to the car, or 20 tons including weight of car and an eight wheel caboose, or 612 net tons in all, up a continuous grade of six miles, ranging from 40 to 47 feet to the mile, and with several three degree curves. The engine in the performance of her daily local work is obliged to go into a stone quarry turnout, where there is a curve of fifteen degrees deflection, which she passes without difficulty."

The above statement confirms the letters written to the Mason Works by Mr. S. B. Adams who went with the "Hunter." In his file of letters he makes the statement that the "Hunter" was hauling about twice the train carried by the 16x24" 4-4-0 engines used on the road and three and four more cars per trip than hauled by the 17x24" moguls used by the road. The latter use 6 tons of coal between Terre Haute and Indianapolis while the tank of the "Hunter" would not hold over two tons. The cylinders of the "Hunter" were 16x24" and she carried 150 lbs. steam pressure. The engine was sent for a 30 day trial and at the end of the time the officials of the road were so pleased with her performance that they purchased her.

In a letter addressed to the Mason Works, Mr. D. C. Corbin, Managing Director of the New York & Manhattan Beach Ry., gives us an inkling as to their confidence in Mason's bogies. His letter is dated March 15, 1879 and at the time of his writing this letter there were eleven of these engines in service on his road:

"Agreeable with my promise to write you, I now have to say that we have concluded to let you build the two locomotives at the price named by you, although it amounts to $1500.00 more than is offered by three other builders and for the same size cylinders, about $2000.00 more.

"I understand your price covers cost of attaching the vacuum brake, although it was not mentioned particularly. In regard to the locomotives, I suppose we can have any little changes made (in case any should be needed) where the same do not materially add to the cost. Mr. Barton and Mr. James will know more about this than I do. I shall inform them that you have the order and instruct them to communicate with you if necessary.

"I shall expect you to make these two locomotives very handsome as they are to run along our beach and between our hotel and Brighton and will be seen by *everybody* almost."

From far up in Vermont State comes word of the performance of the "Mansfield", built for the Burlington & Lamoille R. R. and written by F. G. Brownell, Master Mechanic:

"I will say that we have never had the "Mansfield" in any place yet, where she would slip her drivers on a fair rail. Sometimes I think she does not slip them easy enough. You know the first thing engineers will do if an engine gets stalled in a snowdrift, is to reverse them until they slip and work them out in that way. But it is not so with the "Mansfield." I have stopped her in a snowdrift where the snow was higher than the cab, and where you could not see her drivers, the snow had filled up so. All I had to do was to reverse once or twice and she went along all right. In comparing pulling capacity of the "Mansfield" with engines of the same dimensions of cylinders, I think the "Mansfield" will pull 1/3 more cars than any 16x24" engine in this vicinity. Almost all the enginemen here think the "Burlington" the smartest four wheel connected engine that runs out of this city. The heaviest train the "Burlington" (which has a 17x24" cylinder) ever pulled, was a train consisting of 7 sixteen ton box cars of coal, with 24000 lbs. each, and two empty flat

cars, and could not keep her from slipping on the heavy grades without sand. The Bogie engine "Mansfield" has pulled up the same grade 23 loaded freight cars, also an excursion train of 15 eight wheel and 1 twelve wheeled passenger cars, with 1460 passengers with an average steam pressure of 160, and did not use sand. I do not think any sand has been put in the "Mansfield's" box since she came here. In closing I must say that I have been running or building engines upwards of 20 years and I think the "Mansfield" the most powerful freight engine I ever saw hitched to a train of her dimensions. And every engineer that has run her speaks in the highest terms of her steaming."

When the Canada Atlantic Ry. was being built, Mr. D. C. Linsley, who was not only connected with the Burlington & Lamoille but was also Manager of the Canada Atlantic, sent the "Mansfield" to the latter road. Here she continued her fine service as outlined in a letter addressed to the Mason Works from Mr. Linsley under date of May 21, 1886:

"I have at last had an exhibition freight train run over the finished portion of this road and mailed you Saturday, the reporters account of the trip. I think you cannot but feel pleased at the manner in which the "Mansfield" behaved herself as stated in the reports sent you. But the performance was even a good deal better than the reports given it. The train had not been weighed at the time it was run. It was agreed to call the load 450 tons. I had the train weighed and the gross weight was 792 tons (net) and the tare 312 tons showing a live load of 480 net tons. But there was one feature of the trip which does not at all appear in the reports and indeed was not then noticed and which in my judgment adds very greatly to the credit of the performance. It is this. The "Mansfield" hauled this train from Alexandria to St. Polycarpe a distance of 19 miles over an undulating country against maximum grades of 30 feet in 55 minutes, including one stop of several minutes at Glen Robertson. There was something more of descending than ascending grade as St. Polycarpe is lower than Alexandria but not very much. The two miles run in 4.17 min. was about 4 miles before reaching St. Polycarpe. The highest steam pressure on gauge was 140 lbs. and the lowest 125. I shall have the time made noticed by the press and will send you a copy. Do you know of any better performance than this? I cannot now recall any."

Under date of September 8th, 1882, Abraham Schropp, Secretary of the Bethlehem Iron Works, Bethlehem, Pa., advised the Mason Machine Works relative to the bogie engine "Kraft," built by the Mason people in 1881. The train consisted of

17 eight wheel cars of coke @ 17½ tons each	297.50	tons(net)
61 four wheel cars of coal @ 5½ tons each	375.76	tons(gross)
163 four wheel cars of iron ore @ 5 tons each	912.80	tons(gross)
	1586.06	
Taking the coal cars @ 3 tons each and the coke cars at 8 tons each, we have	808.00	
Making a total of cars and loads of	2394.06	net tons
	or	
	2137.55	gross tons

"The train was pulled out of a siding, part of the siding being on a straight and part on a curve of 6°. The grade is level. The distance hauled was about one mile and it was for the purpose of shifting some cars from the rear end of the train. The locomotive was running backwards at the time and made the pull with the greatest ease. We cannot give you the amount of coal used as we kept no track of it. Steam pressure 135 lbs. The engine steams very freely and gives the greatest satisfaction in every way."

The letter closes with a request of a tracing of the valve motion (the Walschaert gear) of the "Kraft."

Under date of August 8th, 1876, Mr. A. P. Blake, President of the Boston, Revere Beach & Lynn R. R., wrote the Mason Machine Works as follows:

"Having had a years experience in running our three feet gauge railroad we think we are able to judge somewhat intelligently of the requirements necessary to operate one successfully.

"We are pleased to be able to testify to the merits of your Double Truck Locomotives which we have used from the beginning. Perhaps no other narrow gauge engines in the country have had their qualities more severely tested than these on our road.

"The business we have done has largely exceeded our expectations and as we had not provided equipment for so large a traffic we have been compelled to work our locomotives beyond their supposed or intended capacity.

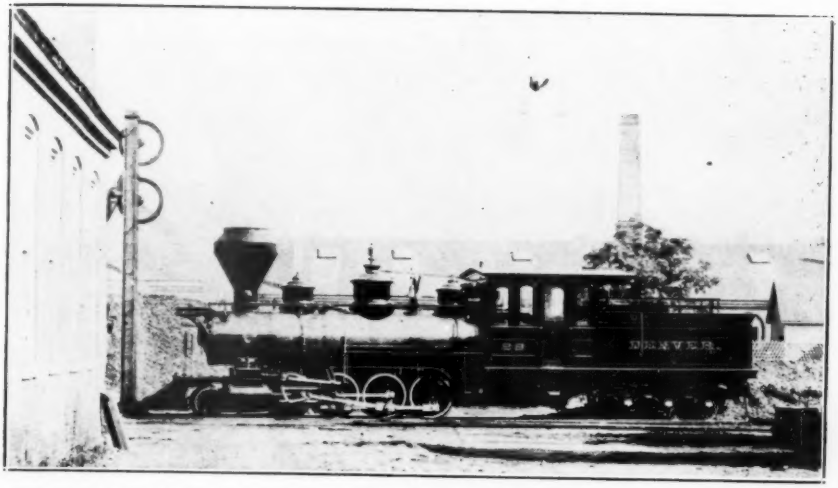
"Your two 10x16" cylinder engines hauled our regular passenger trains last season each making twelve trips of nine miles every day. Most of our cars are larger than are used on three foot roads generally. They are 45 feet long, including platform 50 feet, they are very roomy as the seats are arranged, and seat with plenty of room and no crowding 56 to 60 passengers with standing room for 40 more and are quite often so filled. Our cars are fitted with the Miller platforms. We have two short grades of 70 feet to the mile, and our trains are frequently made up with 5 to 7 such cars. Your engines have been with such trains in constant service of 12 hours every day and we are pleased to say they have done the work very satisfactorily indeed.

"We think the superiority of your type of locomotive for our gauge of road is their great steaming capacity with economy of fuel.

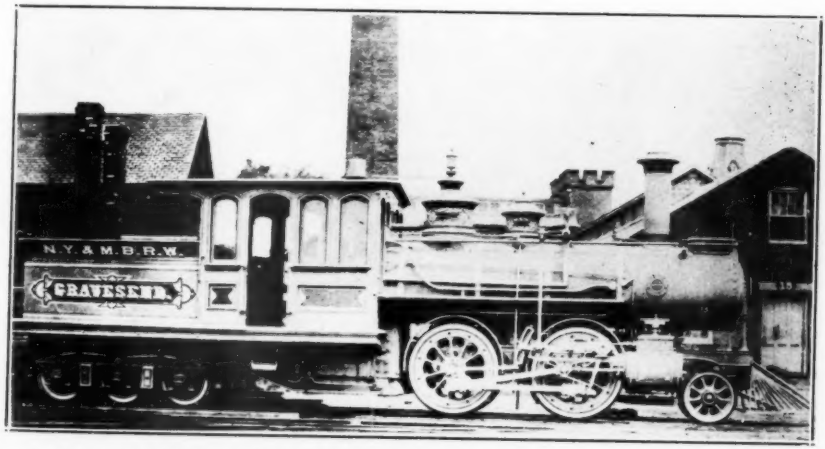
"Any of your friends, who you may chose to refer to us, we shall be pleased to give the results of our experience with your locomotives."

With the exception of one 4-4-0, which was built for the Boston, Revere Beach & Lynn R. R. and was soon sold because its performance was not satisfactory, no type of engine other than the Mason bogie was ever used on this road. Heavier trains called for heavier engines and the last engines built had 14x18" cylinders and these engines were able to handle ten cars easily. When the Mason Works ceased to built engines an order was placed with the Taunton Works and when they ceased to build locomotives, orders were placed with the Manchester Works and the final order came from the Schenectady Works of the American Locomotive Co. In each order the road insisted on the same type of engine as furnished by the Mason Works and they were exact duplicates to the last detail. Save for the badge plates, it was impossible to tell them from the Mason engines—that and their bells. Thus for nearly forty years this design was perpetuated and rendered efficient service. When the B. R. B. & L. decided to electrify their road, they hoped to sell their steam engines, but not finding a customer, they were finally cut up for scrap iron—two, however, were retained for snow and work train service.

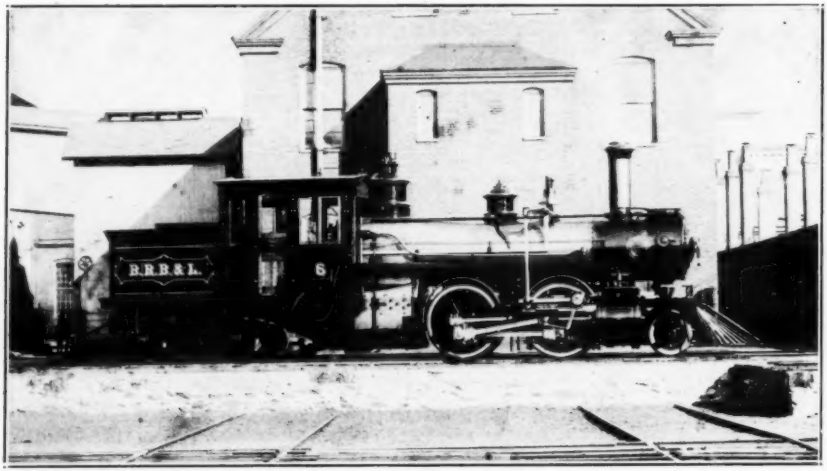
I have confined my remarks solely to the Mason bogies. These engines should not be confused with the engines of the "Forney type" or "double enders" as they were frequently called. This type was built by the other locomotive builders and used for suburban service and light service on the smaller roads. Electrification in the larger cities



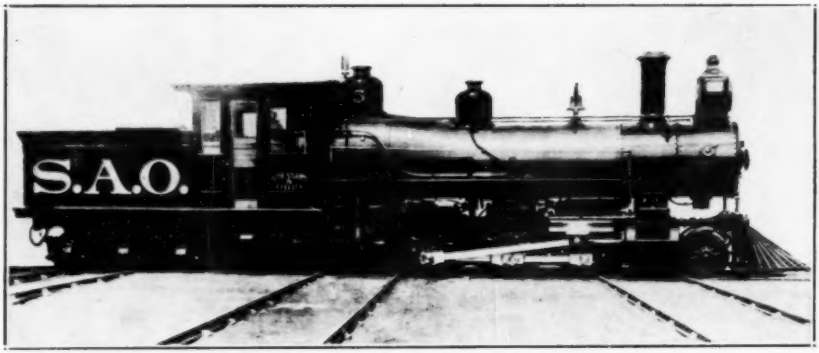
Denver, South Park & Pacific R. R. "Denver" #28. Mason #632. Oct. 8, 1880. 15x20" 36", 55340#.



New York & Manhattan Beach Ry. "Gravesend." Mason #651. June 20, 1881. 14x18" 48".



Boston, Revere Beach & Lynn R. R. #6. Mason #727. April 14, 1886. 14x18" 49", 38510#.



South Atlantic & Ohio #3. Mason #749. Sept. 1887. 16x24" 54", 69400#.

has driven these engines from suburban service tho' it is of interest to note that the Boston & Albany and the Central R. R. of New Jersey still use this type for suburban service. The practice of our roads of placing main line engines, too light for that service on lesser travelled portions of their road is one we cannot discuss here. Some good authorities sharply differ with this policy and have not hesitated to state that had locomotives of the "double end" variety been continued in lighter service, the economies resulting would have handled this light business at a profit rather than at a loss by a half worn out locomotive. It is all history now and it should not be discussed here.

I have stated previously that the first engine of this type which Mr. Mason built was the "Onward" for the American Fork R. R., completed on July 1, 1872. Mr. Mason did build, in December, 1871, the "Janus", an engine of the Fairlie type, using two boilers placed back to back and using one firebox. The engine had 15x22" cylinders and 42" drivers and was of the 0-6-6-0 wheel arrangement. Coal and water were carried in tenders alongside the boiler and it was lack of fuel and water capacity that prevented this engine from being a success. After being tried on the Boston & Albany R. R., the engine was eventually sold to the Lehigh Valley R. R. Here it continued in pusher service and eventually was cut in two and two shop switchers of the 0-6-0 type were built from this engine. The "Janus" is mentioned in connection with his "bogies" but is not included in the total number built. The "Janus" was an experiment and the experiment was not repeated.

The Mason records indicate that 148 engines of the "Fairlie" or "bogie" type were delivered by these works. The name "Fairlie" is first applied to these engines but later the word "bogie" appears. I am listing the roads, some are standard gauge and some are narrow gauge, to which the "bogie" engines were delivered:

Atlantic, Mississippi & Ohio	2
Boston, Revere Beach & Lynn	11
Burlington & Lamoille	2
Calumet & Hecla Mining Co.	5
Central R. R. of Iowa	6
Chicago & West Michigan	2
Covington, Columbus & Black Hills	2
Denver & New Orleans	2
Denver, South Park & Pacific	23
Denver, Utah & Pacific	2
Galveston, Harrisburg & San Antonio	2
Juragua Iron Works	2
Long Island R. R. (Manhattan Beach Branch)	5
Marine R. R. (on Long Island)	2
Mexican Central	2
New Brunswick Ry.	4
New York & Brighton Beach	2
New York & Manhattan Beach	17
Norfolk & Western	2
North Pacific Coast	2
Old Colony	3
Riviere du Loup	3
South Florida R. R.	3
Toledo, Delphos & Burlington	6
Wheeling & Lake Erie	16

One locomotive was delivered to each of the following roads: American Fork; Allouez Mining Co.; Bethlehem Iron Co.; Boston & Maine; Chicago & Michigan Lake Shore; Cincinnati Northern; Detroit, Hillsdale & South-western; Erie; Friendship; Hecla & Torch Lake; Illinois Midland; Nantasket Beach; New Bedford; Peach Bottom; Providence, Warren & Bristol; South Atlantic & Ohio; St. Joseph Lead Co.; Stockton & Ionia; Toledo, Wabash & Western and Utica, Ithaca & Elmira.

Thus were the Mason "bogies" distributed—a design which did not originate with Mr. Mason but upon which he improved, as he did many things in order to produce a light locomotive which would produce the maximum tractive power and in that—he was successful.

American-Built Locomotive Sold in England

Mr. D. S. Barrie, our British Representative, calls our attention to the closing and the sale of rolling stock and fixtures of the Lynton & Barnstaple branch—2 ft. gauge—of the Southern Railway. The last trains ran in this line Sunday, September 29, 1935. Subsequently the motive power, rolling stock and fixtures were sold at auction.

The locomotive "Lyn", Southern Ry. #762, was originally built for the Lynton & Barnstaple Ry., now a part of the Southern Ry., by the Baldwin Locomotive Works in 1898, their #15965. The "Lyn" was of the 2-4-2 tank type and the following were the principal dimensions:

Cylinders (2)	10x16"
Wt. in working order	22 tons
Total wheelbase	17 ft. 7 in.
Working pressure	180 lbs.
Capacity of water tanks	800 gals.
Heating surface	379 sq. ft.
Overall length	28 ft.
Width over platform	7 ft. 2 in.

The "Lyn" was the only American-built locomotive and the only one with bar frames, ever to have run on the Southern Ry. The engine derived its name from that of the river in the locality.

Altho' purchased by a firm of scrap dealers, report has it that the engine is to be shipped to South America for service there. Perhaps its usefulness is not yet ended.

The Ashley Planes of the Central Railroad of New Jersey

By Thomas T. Taber

THE Ashley Planes were originally constructed in 1842-43, primarily for the hauling of anthracite coal, other freight, and even passengers, from the valley of the Susquehanna River, at Wilkes Barre, Pennsylvania, to Solomon's Gap at the top of the Blue Mountains. This range of mountains separates the valley of the Susquehanna River from that of the Lehigh River. The Ashley Planes are today still in operation, and perform their work more cheaply and efficiently than their competitor—the modern steam locomotive!

Practically all of the anthracite coal mined in quantity in the United States is produced in seven counties of north eastern Pennsylvania, covering roughly an area of about 470 square miles. These counties, from north to south are:—Lackawanna, Luzerne, Carbon, Schuylkill, Northumberland, Dauphin and Columbia. The anthracite coal region is divided into three general areas—The Northern, comprising Lackawanna and Luzerne counties, which embrace the Carbondale, Scranton, Pittston and Wilkesbarre regions, covering approximately 198 square miles. The Middle comprising the Lehigh and Mahony regions while the third, or Southern area centers around Schuylkill County, and is often referred to as the Schuylkill region.

When first discovered, anthracite coal was known as "stone coal," because of its hardness and the difficulty with which it kindled. It was first used in a few homes, and gradually became favorably known for foundry and blast furnace use. Col. H. B. Wright, author of "Historical Sketches of Plymouth, Luzerne County, Pennsylvania," gives the following as his version of the first shipment of "stone" or anthracite coal sent out of that region. "In the fall of the year 1807, Abijah Smith purchased an ark of John P. Arndt, a merchant of Wilkes-Barre, for $24.00. This ark he floated down the Susquehanna River to Plymouth, loaded with about fifty tons of anthracite coal, and late in the same season landed it safely at Columbia, Lancaster County, Pennsylvania." It is interesting to note that the first shipment of this coal to reach Philadelphia made such a poor impression on the City Fathers that after trying to burn it without success, they had it broken up and used to repair the roads!

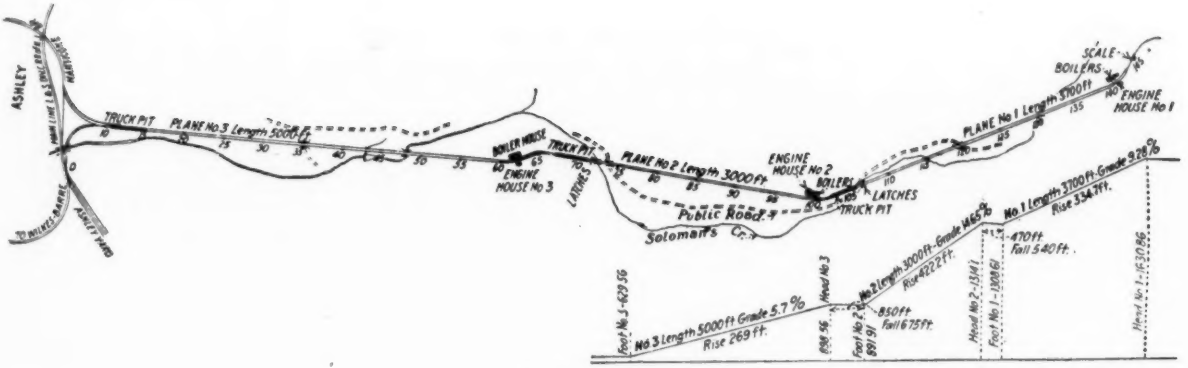
The citizens watched with great interest the construction of the Delaware and Hudson canal, from Honesdale to Rondout Creek, on the Hudson River. When the canal was opened, and a fleet of barges loaded with anthracite coal reached New York, in 1828, an outlet was provided, with a ready market, for the anthracite coal mined in the northern end of the Lackawanna Valley. It was soon realized that if the mines of the Wyoming valley were to be developed, and Wilkes-Barre to prosper, some way must be found for easily and cheaply getting their coal to the eastern seaboard.

The Wyoming Valley, in which Wilkes-Barre is located, is about three and a half miles wide and twenty-five long. It extends between two parallel ranges of mountains running roughly from northeast to southwest. On the east, the Blue Mountains rise steeply to a height of one thousand feet above the valley, whereas the mountains to the west rise only eight hundred feet. The Susquehanna River flows generally southwest thru the valley thence past Sunbury, Harrisburg, and Columbia and eventually, after many twists and turns reaches Chesapeake Bay. As a means of transportation to the eastern seaboard, the Susquehanna River was most unsatisfactory. Low water, high water, shoals, freshets and rocks all took their toll of shipping. If after a long and arduous trip a boat reached tide-water, its cargo had to be transshipped to reach one of the large cities. Just across the Blue Mountains, to the southeast of Wilkes-Barre, the Lehigh River flowed to Easton, at which point it joined the Delaware River, giving a direct waterway to Philadelphia. To reach the Lehigh River, however, it was necessary to cross the Blue Mountains, which rose over a thousand feet above the valley.

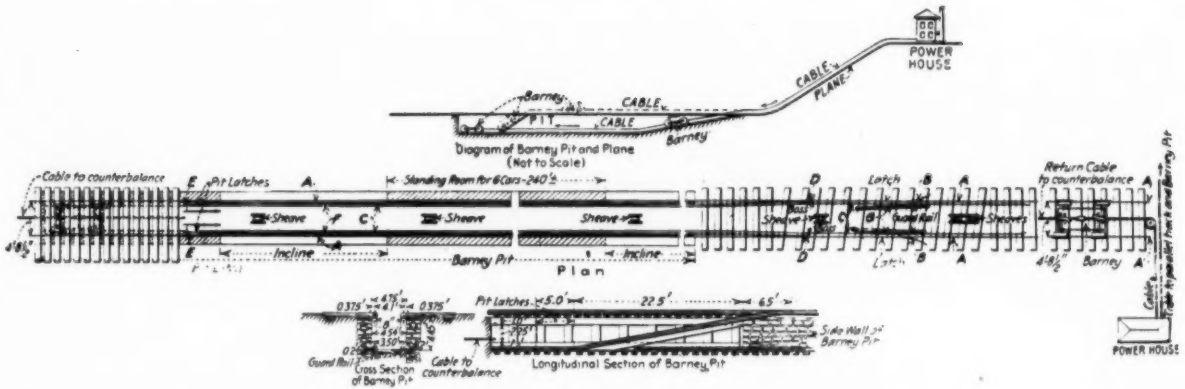
After a number of meetings by the citizens of Luzerne County, the Pennsylvania State Legislature was petitioned for a charter. On March 13, 1837 it passed an act authorizing the Lehigh Coal & Navigation Company to construct a railway from the North Branch Division of the Pennsylvania canal, on the Susquehanna River at Wilkes-Barre, to the slack water navigation of the Lehigh River. It was originally intended to transport canal boats on cradles over the railway, in order that they might pass from the upper reaches of the Susquehanna River to the Lehigh and Delaware Rivers. I have been unable to ascertain if this was ever done.

The railroad, known as the Lehigh and Susquehanna, was finally located, and constructed from White Haven, on the Lehigh River, to Solomon's Gap, at the summit of the Blue Mountains. From Wilkes-Barre it was constructed to Ashley, at the foot of the Blue Mountains. Between Ashley and Solomon's Gap, three inclined planes were constructed, giving a total net rise of 1013.75 feet in 2.47 miles. The grades were far too steep for locomotive power, so the cars were hauled up the three planes by cables operated by stationary steam hoisting engines, located at the head of each plane. From Solomon's Gap to White Haven the grade was in favor of the loaded or eastbound movement, but was not too steep to cause locomotives pulling empties or other westbound trains any difficulty. At White Haven, coal and other freight was loaded into canal boats for the balance of the journey to the eastern cities.

On April 3, 1843 the Ashland Planes were placed in service, and until 1867 all freight and passenger traffic in both directions was handled by the planes—being either hauled up or let down, as the case might be. In 1867 the Lehigh and Susquehanna Railroad completed a single track line from Solomon's Gap to Ashley, known as the "Back Track." This line winds down the mountain a distance of about thirteen miles, as compared with the two and a half on the planes. The grade, while intended for locomotives, is heavy, averaging about eighty-one feet to the mile. The maximum is ninety five feet to the mile, and the minimum fifty one



The Ashley Planes.



Description of Barney Pit

feet. Since that line was opened, all passenger traffic in both directions has moved over the "Back Track", as has all westbound freight, and some eastbound freight as well. Subsequently, the Ashley Planes were slightly altered to provide for only the eastbound—or up the planes—movement.

The floods of 1862 washed out and destroyed the upper end of the Lehigh Canal. The Pennsylvania Legislature on March 4, 1863 prohibited repairing the canal, and granted a charter to the Lehigh and Susquehanna to extend their railroad from White Haven to Mauch Chunk, which was done. On March 16, 1864 a supplementary act was passed authorizing the railroad to be extended to Easton. When that portion was completed, by its connections at Easton with the Central Railroad of New Jersey, and at Bethlehem with the Philadelphia & Reading (or North Pennsylvania Railroad as it was then known), the final link in all rail route from Wilkes-Barre to Philadelphia and New York was secured.

On April 1, 1871, the Central Railroad of New Jersey leased the Lehigh & Susquehanna Railroad, and has operated it continuously ever since.

The historic Ashley planes which have been maintained and operated for almost ninety three years, are still used whenever the coal mines are operating and shipping coal. The planes are double tracked. As the movement is solely up grade, to prevent a serious accident in case a cable were to break, derails have been placed at several points, so that if a car should break away and start back down the plane, it would soon be thrown off the track, without damaging much other than itself. The planes are numbered, the top, being No. 1, the middle No. 2, and the bottom plane No. 3. The foot of No. 3 plane is near Ashley station and receiving yard, where loaded coal cars are brought from the various mines, branch lines, and connecting railroads, for movement east. The planes resemble each other, except for the difference in grade and length. The steeper the grade, the shorter the plane.

Plane No.	*Location*	*Length*	*Grade—Per Cent*	*Rise in Feet*
3	Lower-Ashley	5,000 Ft.	5.7	269.0
2	Middle	3,000 Ft.	14.65	422.2
1	Upper-S's Gap	3,700 Ft.	9.28	334.7

The total rise is 1025.9 feet, from which should be deducted the short stretch of slightly descending track at the head of Plane No. 3, of 6.75 feet, and at the head of Plane No. 2, of 5.4 feet, leaving a net ascent of 1013.75 feet.

Six loaded cars are pushed at one time, by a steam locomotive, from the Ashley receiving yard, and spotted over the "Barney Pit" of one of the two tracks at the foot of Plane No. 3. The footman, by means of a bell, signals the hoisting engineer at the head of the plane when the cars are ready to be hoisted. The engine is then started slowly, pulling the Barney car out of its pit, and into place behind the six loaded cars. As soon as it hits the cars, the hoisting engine is opened up, and the cars are hauled up the plane at a speed of from fifteen to thirty miles per

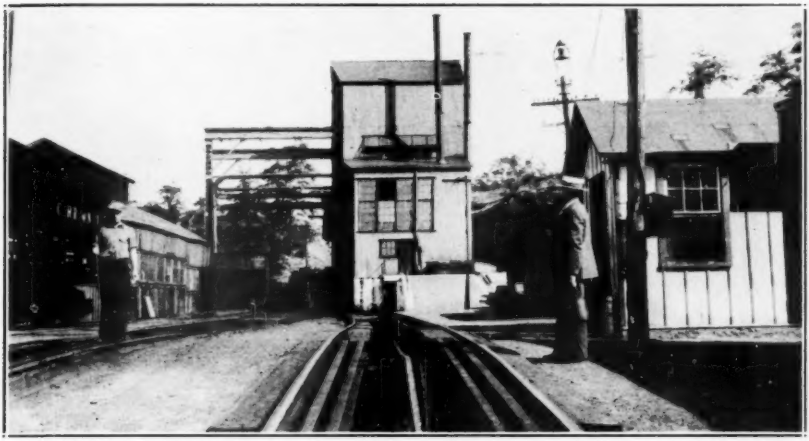
hour. On their arrival at the head of Plane No. 3 the hoisting engine is stopped, then reversed as soon as another cut of cars is ready on the other track at the bottom of the plane. As the second Barney brings up its six cars, the first is returning down the plane to its pit at the bottom. The cars arriving at the head of Plane No. 3 are taken in charge by a brakeman, who cuts them in two units of three cars each for the trip up Plane No. 2, which is much steeper than No. 3. Because of the slight descending grade from the head of No. 3 to the foot of No. 2, the cars roll by gravity right into place over the Barney pits of Plane No. 2. The same procedure as to hoisting is followed on this plane, and also on Plane No. 1, only three cars being taken up it at one time. Since No. 2 and No. 1 are both shorter than No. 3, the two units of three cars each can be handled as rapidly on those planes as the one unit of six cars on No. 3.

On arrival at the head of No. 1, at Solomon's Gap—the top of the mountain—a brakeman rides the cars by gravity to the receiving track at Penobscot yard, about a mile distant, where they are made up into tonnage trains for handling by locomotives to their various destinations.

In all, it requires about fifteen to twenty minutes to haul a unit of six cars up the three planes. From thirty to forty-five cars can be taken up per hour, without any difficulty.

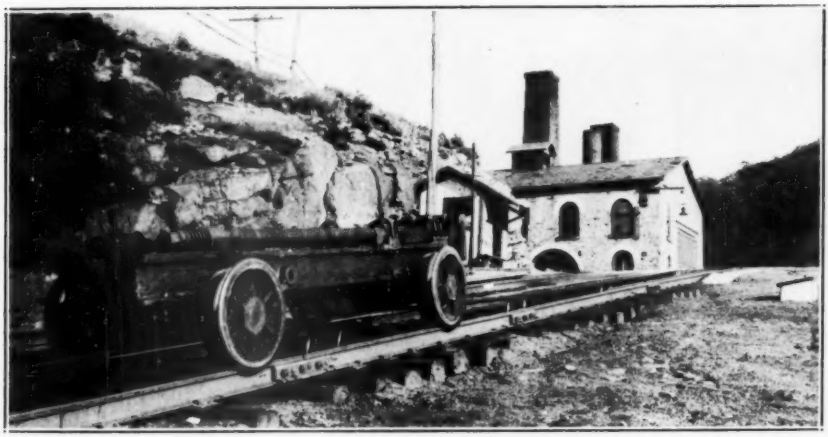
The hoisting engine at the head of each plane has a drum twenty feet in diameter. Securely attached to the front of the Barney car is a 2½" steel cable, which passes over small sheave wheels between the rails, to the top of the plane, where it enters the engine house and passes three times around the drum of the hoisting engine. It then goes out, and down to the other Barney car, to which it is securely fastened. A one and one half inch steel cable, known as a "tail Rope" is fastened to the back of the Barney. This tail rope goes down the plane to the foot, where it runs over a large sheave wheel, and thence to the other track, and the back of the Barney thereon. The large sheave wheel is under constant tension, created by heavy counterweights. The object of this is to keep both the hoisting cable and the tail rope stretched out and taut at all times. By so doing kinks are prevented and a smoother operation secured. The hoisting engine is reversed at the end of each trip. As one Barney reaches the top of the plane with its loaded cars, the other is descending into its pit at the foot, and is ready to bring up another cut of cars. The type of Barney car and pit used on the Ashley Planes, makes it possible for cars to be spotted over the pits at any time, without regard for the position of the Barney. The most unique feature of the operation is the construction of the Barney car, and its method of getting under and behind the loaded cars. Since while on the plane proper the Barney runs on the same rails as the loaded cars, as it descends the plane to get another cut of cars it is of course in front of them, and must drop down into the pit, pass under, and then come up behind the cars it is to take up the plane.

An ingenious arrangement of the wheels on the car, together with tracks of different gauges, and track devices accomplish this. The Barney car weighs seven tons. Each wheel has its flange on the *outside* with its own axle, which slides in its own sleeve independently of the others. One set of wheels is just forward of the other, with both sets held in place by

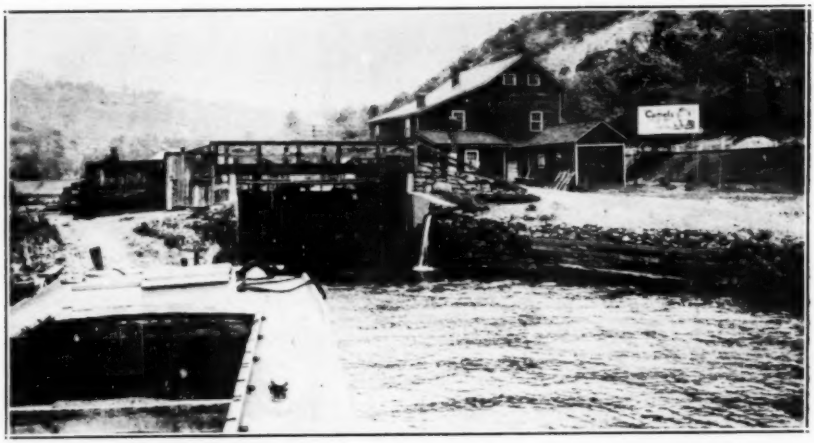


Head of Plane #1. Engine House.

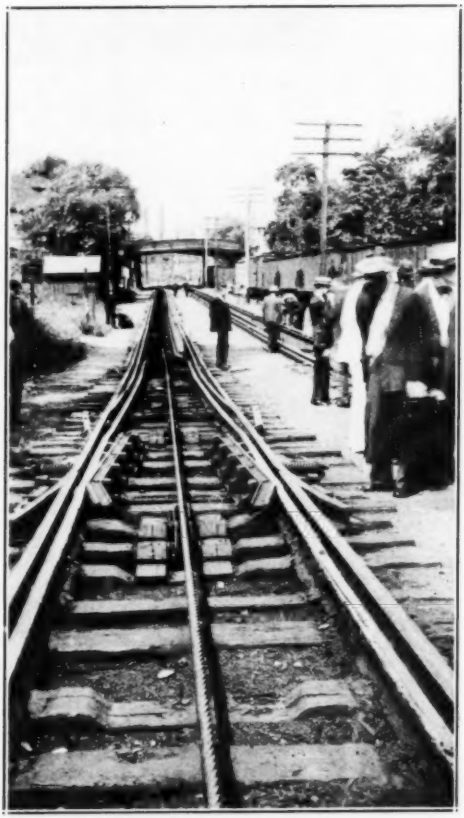
From this point cars drift to Penobscot Yard.



Barney Car and Engine House, Plane #2.



On the Lehigh Canal, August, 1935.



The "LATCHES". Plane #3.

an equalizing bar which adjusts itself to the gauge of the wheels. The tread of the wheels is six and thirteen sixteenths inches, with a two and one eighth inch flange. On the plane the Barney uses the standard gauge rails, but as it descends, just before reaching its pit at the foot, it encounters a deflector and switchpoints, known as the "Latches". As the flanges are on the outside of the wheels, the deflectors force the wheels in, compelling them to run on a slightly narrower gauge track which leads down into the pit, passing under the loaded cars. At the rear of the pit, spring switch points again deflect the wheels so that when the car is pulled forward it uses another set of rails, causing it to rise behind the loaded cars in a very short distance—30 feet. At the head of the pit, as the Barney pushes its loads up the plane, the "Latches" again force the wheels out on the standard gauge track, for the ascent of the plane.

Only slight changes have been made in the operation and equipment of the Ashley Planes since their construction in 1842-43. Incidentally some of the equipment of the No. 2 plane has been in service since 1869.

It does not pay to operate the planes continuously today, unless a sufficient volume of tonnage is available to make it worthwhile starting them up. They seldom operate more than eight to sixteen hours steadily when in service. When the mines are shipping coal in quantity, the cars are assembled at Ashley during the day and early evening. The planes will then operate until the yard is cleaned out. When the planes are not in operation the freight is laboriously pulled up the Back Track by scheduled freight trains. That is a thirteen mile pull, against the two and a half of the planes.

Even today, the ninety three year old Ashley Planes can haul freight in quantity from Ashley to Solomon's Gap far more cheaply than can modern steam locomotives working up the Back Track. This speaks well for the men who planned and built the planes so many years ago.

General Data

	Upper, or No. 1, Plane	*Middle, or No. 2, Plane*	*Lower, or No. 3, Plane*
Length of plane, feet	3,700	3,000	5,000
Length of truck pits, feet	391	397	428
Rise per 100 ft., in feet	9.28	14.65	5.7
Total rise of each plane, feet	334.7	422.2	269
Fall between planes, feet	5.40	6.75	
Distance between planes, feet	470	850	
Slope angles	5°18′	8°20′	3°15′
Length of main cable, feet	4,640	3,670	5,780
Diameter of main cable, inches	2½	2¾	2½
Weight per foot, pounds	10½	11⅜	10½
Life of cables-Main	14 mos.	10 mos.	17 mos.
Length of tail rope, feet	4,023	3,320	5,520
Diameter of tail rope, inches	1½	1½	1½
Weight per foot, pounds	3¾	3¾	3¾
Life of tail rope	24 mos.	20 mos.	32 mos.
Horse power of engines	2000	1200	1200
Horse power of boilers	1500	1200	1200
Distance of Planes		2.7 Miles	
Distance by locomotive up back track		13.5 Miles	
Time to haul up Planes		20 Minutes	
Total rise, Ashley to Solomon's Gap, feet			1,013.75
Total distance, Ashley to Solomon's Gap, feet			13,020.

Important Note

Much of the material of the foregoing article was taken with permission of the American Institute of Mining and Metallurgical Engineers, from their pamphlet 1093-C (1921), entitled "Ashley Planes for Handling Freight Traffic", by C. H. Stein (Assistant to President C. R. R. of N. J.). The courtesy of the Institute in graciously permitting the use of this material has saved much time and enabled the production of a more complete article than would otherwise have been possible.

The Canadian Centenary

ON July 18th and 19th of this year, the Canadian National Railways paid tribute to the opening of the Champlain & St. Lawrence R. R., the first railroad in Canada. Celebrations were held at St. Johns and at Laprairie, the old termini of the little road.

On Saturday, July 18th, at 1:00 P. M., the excursion train, drawn by the streamlined locomotive, C. N. #6400, completed at the Montreal plant of the American Locomotive Co., May, 1936, followed by the little "Dorchester" mounted on a flat car, a baggage car, two officers cars and sixteen coaches, pulled out of the Bonaventure Station at Montreal. Crowds lined the tracks at St. Henri and Point St. Charles to glimpse the little "Dorchester" and the #6400. At St. Lambert a stop was made to dedicate a marker as the Champlain & St. Lawrence abandoned the Laprairie terminus in favor of St. Lambert. Again the train continued until St. Johns was reached. After the introductory speeches, the little "Dorchester" was transferred to a truck and headed a parade that depicted the growth of transportation. Here another marker was commemorated and the day closed with a brilliant display of fireworks.

On Sunday, the little "Dorchester" and the #6400, together with a larger crowd set out for Laprairie. The celebration was opened with a pontifical high mass, held out of doors, and was attended by hundreds. In the afternoon church and civil officials took part in the parade and decorated floats broke up the long procession. The celebration closed that evening with another display of fireworks.

On Tuesday, July 21st, one hundred years to the day of the opening of the road, the Canadian Railroad Historical Association held a meeting in the Chateau de Ramezay, during which time the replica of the "Dorchester", constructed by the Society, was on display. Mr. Hungerford, President of the Canadian National Railways, mounted the footboard and was drawn down the short length of track and thus Canada commenced the second century of railway operation.

It was interesting to visit the old terminal at Laprairie and walk down the old right of way, gaily decorated for the event with the Canadian colors. Favored with ideal summer weather, even nature assisted with the plentiful blooms of Japanese poppies and blue-eyed lupines. Orderly throngs attended and took part in the celebration and thus Canada marked her one hundredth anniversary of the opening of her first railway and the Canadian National prepared to enter a second century of service to our northern neighbor.

Locomotives of the New Haven R. R.

By Chas. E. Fisher

IN BULLETIN No. 40, we traced the early locomotives of the New York & New Haven and the Hartford & New Haven roads which made the present consolidation—New York, New Haven & Hartford R. R. Like many roads of that period, with the acquisition of new power or locomotives from leased or purchased roads, the series of numbers was simply continued without regard to locomotive classification. This did provide for one feature—the grouping of the locomotives of the subsidiary roads.

The next group of locomotives were either built by or else purchased by the N. Y. N. H. & H. R. R.

106	N Y N H & H	1882	18x24″	69″	4-4-0 Re 1795—Sc 1914
107	N Y N H & H	1883	18x22″	68″	4-4-0 Rebuilt
	New Haven Shops	1897	18x24″	69″	4-4-0 Re 1622—Sc 1926
108	Rhode Island ‡——	1882	19x26″	60″	4-6-0 Rebuilt
	Norwood Shops	1902	19x26″	62″	4-6-0 Re 862-974—Sc 1926
109	Rhode Island ‡——	1882	19x26″	60″	4-6-0 Rebuilt
	Norwood Shops	1901	19x26″	63″	4-6-0 Re 863-975—Sc 1925
110	Rhode Island ‡——	1882	19x26″	60″	4-6-0 Rebuilt
	Roxbury Shops	1901	19x26″	63″	4-6-0 Re 864-976—Sc 1925
111	Rhode Island ‡——	1882	19x26″	60″	4-6-0 Rebuilt
	Norwood Shops	1903	19x26″	63″	4-6-0 Re 865-977—Sc 1925
112	Rhode Island ‡——	1882	19x26″	60″	4-6-0 Rebuilt
	Norwood Shops	1902	19x26″	63″	4-6-0 Re 866-978—Sc 1925

BOSTON & NEW YORK AIR LINE

In 1867, a charter was granted by the State of Connecticut for the construction of a railroad between New Haven and Willimantic through the towns of Wallingford, Durham, Middlefield, Middletown, Portland, Hebron, Lebanon and Windham, a distance of fifty miles. Chartered under the name—New Haven, Middletown & Willimantic R. R., the road soon encountered financial troubles and in 1875, the Boston & New York Air Line Railroad Co. was formed by the first mortgage bondholders. The road was opened between New Haven and Willimantic on Aug. 15, 1873 and with its connections, it furnished the most direct route between New York and Boston, ever built. On Sept. 20, 1882, the road was leased to the New Haven R. R. for 99 years.

The motive power is a bit sketchy and there is much to be desired. The N. H. M. & W. evidently had to dispose of some of their early locomotives to provide funds for working the road and we are not positive of the renumbering of the engines that came to the New Haven R. R.

1	Middletown	Rhode Island	#148		1869	14x22″	60″	4-4-0—Sold to P & L E (?)
2	C Vincent Coffin	Rogers	——		6-16-1870	16x24″	60″	4-4-0—Sold
3	Portland	Rogers	——		1-29-1871	16x22″	66″	4-4-0—Sold
3	P. W. Turner	Rogers	2328		8-23-1873	17x24″	60″	4-4-0—Sold
4	We are not certain if there was a 1st #4 and have no details.							
4	——	Rhode Island	678		1876	16x24″	66″	4-4-0—NH #118 scrap
5	——	Rhode Island	635		1874	16x24″	66″	4-4-0—NH #115 scrap
6	Rip Van Winkle	Rogers	*		11-23-1874	16x24″	54″	4-4-0
6	——	Rhode Island	679		1876	16x24″	66″	4-4-0—NH #113 Re 2044—Sc 1907
7	——	Rhode Island	680		1876	16x24″	66″	4-4-0—NH #114 scrap
8	——	Rhode Island	681		1876	16x24″	66″	4-4-0—NH #116 scrap
9	——	Rhode Island	689		1877	17x24″	60″	4-4-0—NH #117 scrap

* This engine was built 1-19-1872 and leased to the N. H. M. & W. from 11-23-1874 to 11-23-1875. All engines save one were scrapped prior to the renumbering of 1904 and only one engine was assigned any of the above numbers:

114	N Y N H & H	1902	18x26″	69″	4-4-0	Re 1508—Sc 1928
119	Rhode Island #——	1887	18x22″	68″	4-4-0	Re 1765—Sc 1917
Transit	N Y N H & H	1871	6¾x10″	42″	?	

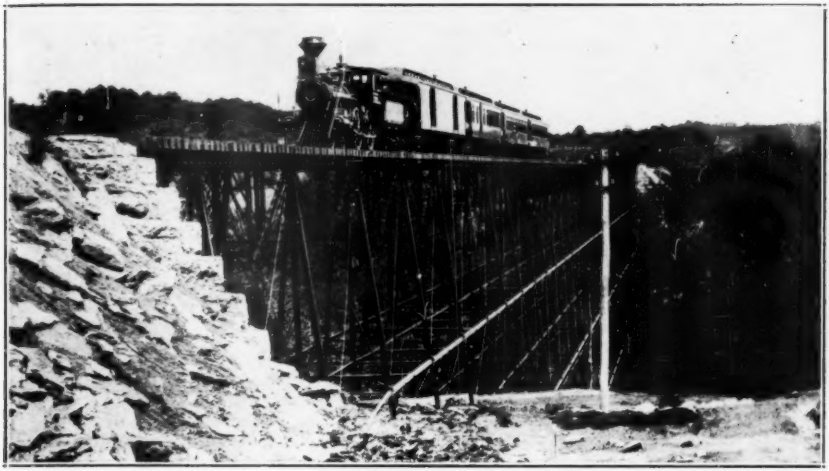
The "Transit" is injected between Nos. 119 and 120 in one of the early rosters but details are lacking.

120	N Y N H & H	1883	18x24″	69″	4-4-0	Re 1785—Sc 1907
121	N Y N H & H	1883	18x24″	63″	4-4-0	Re 1786—Sc 1915
122	N Y N H & H	1883	18x22″	68″	4-4-0	Rebuilt
	New Haven Shops	1897	18x24″	69″	4-4-0	Re 1623—Sc 1926
123	N Y N H & H	1883	18x24″	69″	4-4-0	Re 1787—Sc 1914
124	N Y N H & H	1884	16x22″	48″	0-6-0	Re 2707—Sc 1906

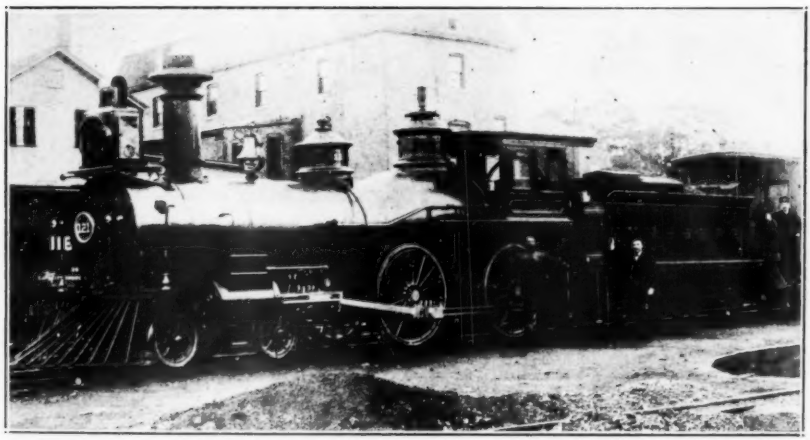
NEW CANAAN R. R.

The line from Stamford to New Canaan was chartered in 1866 by the State of Connecticut and on April 1, 1887 the little road, 8.3 miles long, was leased to the New Haven R. R. So far as we can learn they only owned one locomotive:

Stamford	Rogers #——	4-19-1871	14x20″	60″	4-4-0	Re 125—Scrap
125	Rhode Island	1903	19x26″	57″	4-4-0	Re 955—Sc 1928
126	N Y N H & H	1884	16x22″	48″	0-6-0	Re 2708—Sc 1907
127	N Y N H & H	1884	18x24″	69″	4-4-0	Re 1794—Sc 1907
128	N Y N H & H	1884	18x22″	68″	4-4-0	Re 1793—Sc 1919
129	N Y N H & H	1886	18x22″	68″	4-4-0	Re 1766—Sc 1917
130	N Y N H & H	1886	16x22″	42″	0-6-0	Re 2711—Sc 1913
131	N Y N H & H	1886	18x22″	68″	4-4-0	Re 1767—Sc 1915
132	N Y N H & H	1886	18x22″	68″	4-4-0	Re 1768—Sc 1915
133	N Y N H & H	1886	18x22″	68″	4-4-0	Re 1769—Sc 1917

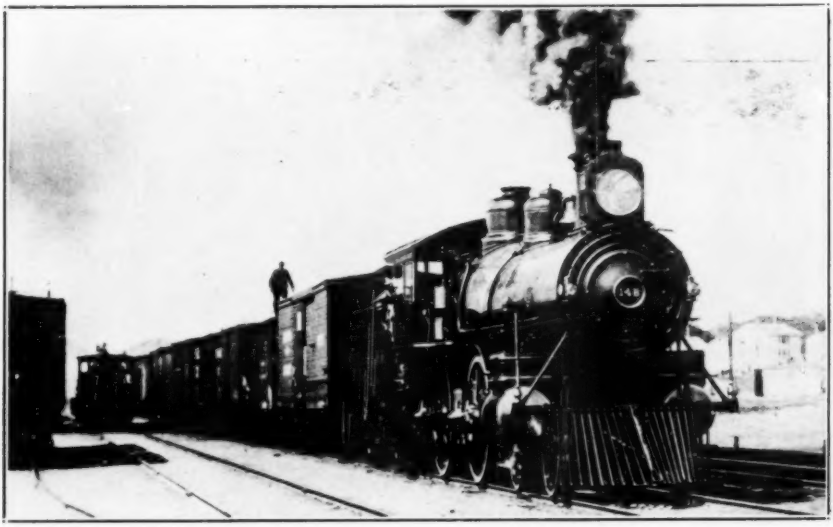


B. & N. Y. Air Line #5 on Lyman Viaduct. Rhode Island, 1874.



N. Y. N. H. & H. #121. New Haven Shops, 1883.

N. Y. N. H. & H. #128. New Haven Shops, 1884.



N. Y. N. H. & H. #148. Baldwin, 1888.

HARTFORD & CONNECTICUT VALLEY R. R.

In 1868, the State of Connecticut authorized the construction of a railroad from Hartford to the shore of Long Island Sound, at some point in the town of Old Saybrook, Westbrook or Clinton, through Middletown. This road was known as the Connecticut Valley R. R. and on June 30, 1871 it was opened between Hartford and Saybrook. In 1879 the first mortgage bondholders took over the road and the Hartford & Connecticut Valley R. R. was formed. On April 1, 1887, the road was leased to the New Haven R. R. for 99 years. It is possible that all the early engines of the Connecticut Valley R. R. carried names but all that we have from the H. & C. V. R. R. is the assignment of numbers with a few of these names:

1	Haddam	Rogers	‡——	4- 3-1871	13x22″	60″	4-4-0
134					Scrap about 1892		
134		Rhode Island	‡——	1893	18x24″	46″	0-6-0 Re 2554 Sc 1923
2	Hartford	Rogers	‡——	6- 6-1871	14x22″	60″	4-4-0 Rebuilt
135		Hartford Shops		1899	14x22″	45″	0-4-0 Re 2825 Sc 1915
3	Middletown	Rogers	‡——	6-22-1871	14x22″	60″	4-4-0
136					Scrap about 1900		
136		New Haven Shops		1902	18x24″	45″	0-6-0 Re 2533 Sc 1925
4	Essex	Rogers	‡——	2-12-1872	14x22″	60″	4-4-0
137					Scrap about 1900		
137		New Haven Shops		1902	18x24″	45″	0-6-0 Re 2534 Sc 1925
5	——	Taunton	‡ 478	10-25-1869	16x24″	63″	4-4-0
138					Scrap about 1896		
138		Hartford Shops		1898	17x24″	69″	4-4-0 Re 1806
6	I C Walkley	Rogers	‡——	4-29-1872	15x22″	60″	4-4-0
139					Scrap about 1900		
139		New Haven Shops		1902	18x24″	45″	0-6-0 Re 2535 Sc 1927
7	——	Hinkley	‡——	1876	16x24″	63″	4-4-0
140							4-4-0 Re 1928 Sc 1905
8	——	Rhode Island	‡——	1879	14x22″	63″	4-4-0
141					Scrap about 1899		
141		Rhode Island	‡——	1903	19x26″	57″	4-6-0 Re 956 Sc 1927
9	——	Hinkley	‡——	1880	17x24″	63″	4-4-0
142							4-4-0 Re 1927 Sc 1905

143	New Haven Shop		1888	19x24″	56″ 2-6-0 Re 633 Sc 1925
144	Baldwin	‡——	1888	20x22″	68″ 4-4-0 Rebuilt
	Roxbury Shops		1900	19x24″	69″ 4-4-0 Re 1400 Sc 1927
145	Baldwin	‡——	1888	20x22″	68″ 4-4-0 Rebuilt
	Roxbury Shops		1900	19x24″	69″ 4-4-0 Re 1401 Sc 1926
146	Baldwin	‡——	1888	20x22″	68″ 4-4-0 Rebuilt
	Roxbury Shops		1900	19x24″	69″ 4-4-0 Re 1402 Sc 1925
147	Baldwin	‡——	1888	20x22″	68″ 4-4-0 Rebuilt
	Roxbury Shops		1901	19x24″	69″ 4-4-0 Re 1403 Sc 1926
148	Baldwin	‡——	1888	20x22″	68″ 4-4-0 Rebuilt
	Roxbury Shops		1900	19x24″	69″ 4-4-0 Re 1404 Sc 1925
149	Baldwin	‡——	1888	20x22″	68″ 4-4-0 Rebuilt
	Roxbury Shops		1901	19x24″	69″ 4-4-0 Re 1405 Sc 1926
150	Baldwin	‡——	1888	18x24″	42″ 0-6-0 Re 2597 Sold 1923

NEW HAVEN & NORTHAMPTON R. R.

In 1846 the New Haven & Northampton (Canal) Company was authorized by the State of Connecticut to construct a railroad from New Haven northerly along the line of the Farmington Canal to Farmington and to continue northerly towards the state line. Commencing on July 1, 1849, the New York & New Haven R. R. operated the road under lease for a length of twenty years. The line extended from New Haven to Granby a distance of about forty-five miles. On July 1, 1869, the New York & New Haven R. R. did not renew the lease and the New Haven & Northampton R. R. commenced operations under its own name.

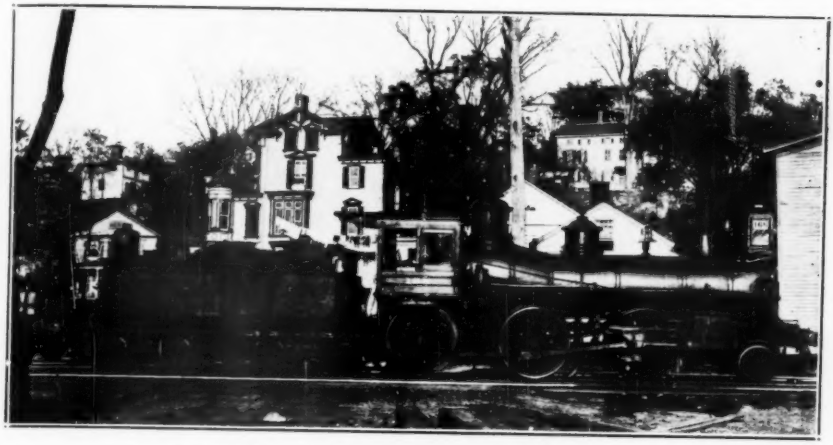
In 1859 the Hampshire & Hamden R. R., extending from Northampton to the Connecticut State Line, a distance of 25 miles was united with the New Haven & Northampton R. R. The road was opened from New Haven to Northampton in 1857 and, so far as the records indicate, the Hampshire & Hamden portion of the road was not included in the lease to the New York & New Haven R. R.

Upon resumption of operations by the New Haven & Northampton R. R., the road built into Williamsburg from Northampton in 1869 and from Collinsville to New Hartford in 1870. In 1881, the road from South Deerfield to Turner's Falls was completed and a connection was made with the Fitchburg R. R. at Shelburne Falls. Through passenger service was established between New Haven and Saratoga Springs, N. Y., the New Haven & Northampton engines handling the trains over the Fitchburg R. R. tracks through to North Adams, Mass.

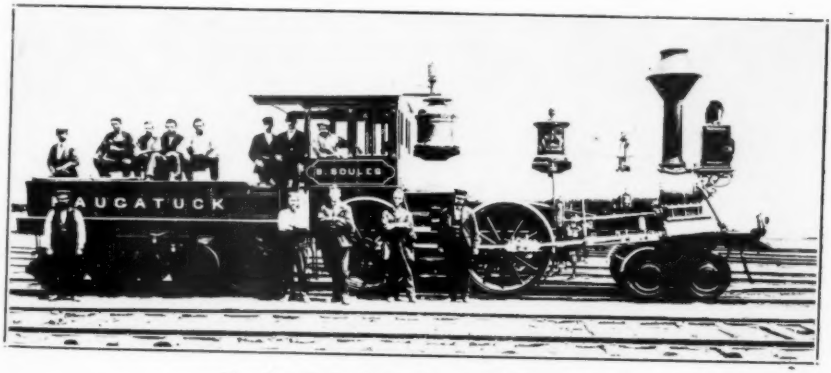
Undoubtedly, the reason the New York & New Haven R. R. assumed operations in 1849 was in the nature of a threat towards the Hartford & New Haven R. R. After the consolidation, the N. Y. N. H. & H. was in a much stronger position but the New Haven & Northampton R. R. with its northern and western connections was also in a very strategic position. The passenger schedules indicate an attempt to compete for this north and south service. Finally, on April 1, 1887, the road was leased to the N. Y. N. H. & H. R. R. for 99 years.

When the New Haven R. R. gave up the lease of the New Haven & Northampton R. R., they turned to the Rogers Works for motive power and the following is a list of their locomotives. It is possible that they purchased or borrowed some motive power until the new locomotives were delivered but the records at this date do not give us this information.

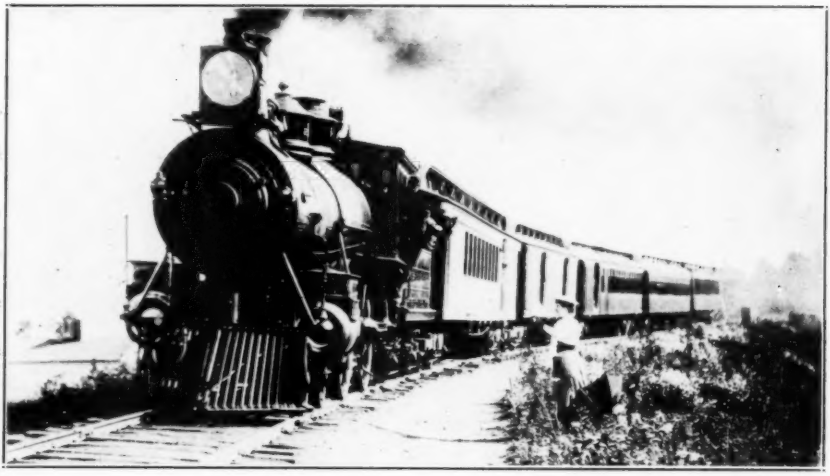
1	Rogers	#——	5- 8-1869	16x22″	60″	4-4-0	
151						4-4-0	Scrap—1898
151	Schenectady	——	1888	17x24″	63″	4-4-0	MW&C #4, NY&NE #201 NH 151, 1849, Sc 1917
2	Rogers	——	5-12-1869	16x22″	60″	4-4-0	
152						4-4-0	Re 2048—Sc 1904
3	Rogers	——	1883	16x22″	63″	4-4-0	
153						4-4-0	Re 2047—Sc 1906
4	Rogers	——	7- 6-1865	14x22″	60″	4-4-0	
154						4-4-0	Scrap—1898
154	Rhode Island	——	1903	19x26″	57″	4-6-0	Re 957—Sc 1926
5	Rogers	——	3-20-1867	15x22″	60″	4-4-0	
155						4-4-0	Scrap—1898



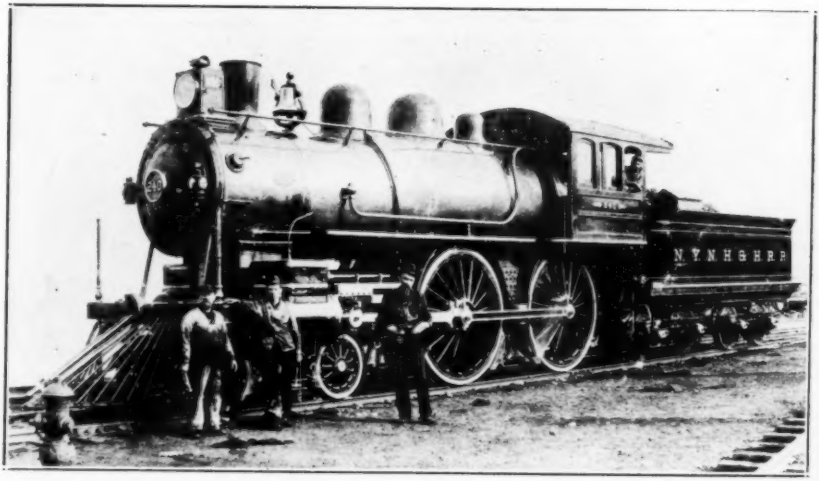
N. Y. N. H. & H. #165. Rogers, 1870. Ex. N. H. & H. #15.



Naugatuck R. R. "B. Soules." Built by N. R. R.



N. Y. N. H. & H. #227. Rhode Island, 1892.



N. Y. N. H. & H. #240. Rhode Island, 1893.

155	Rhode Island	——	1903	19x26″	57″	4-6-0 Re 958—Sc 1927
6	Rogers	—— 7-25-1868		16x22″	60″	4-4-0
156						4-4-0 Scrap—1904
7	Rogers	—— 5-28-1869		14x22″	60″	4-4-0
157						4-4-0 Scrap—1898
157	Rhode Island	——	1903	19x26″	57″	4-6-0 Re 959—Sc 1927
8	Rogers	—— 5-31-1869		14x22″	60″	4-4-0
158						4-4-0 Scrap—1898
158	Rhode Island	——	1903	19x26″	57″	4-6-0 Re 960—Active
9	Rogers	—— 6-16-1869		15x22″	60″	4-4-0
159						4-4-0 Scrap—1898
159	Rhode Island	——	1903	19x26″	57″	4-6-0 Re 961—Sc 1927
10	Rogers	—— 6-19-1869		15x22″	60″	4-4-0
160						4-4-0 Scrap—1898
160	Rhode Island	——	1903	19x26″	57″	4-6-0 Re 962—Sc 1927
11	Rogers	——	1869	15x22″	60″	4-4-0
161						4-4-0 Re 2050—Sc 1904
12	Rogers	——	1869	15x22″	60″	4-4-0
162						4-4-0 Scrap—1898
162	Rhode Island	——	1903	19x26″	57″	4-6-0 Re 963—Sc 1927
13	Rogers	—— 10-21-1869		13x22″	60″	4-4-0
163						4-4-0 Scrap 1898
163	Rhode Island	——	1903	19x26″	57″	4-6-0 Re 964—Sc 1927
14	Rogers	—— 10-23-1869		13x22″	60″	4-4-0
164						4-4-0 Scrap—1892
164	Rhode Island	——	1893	18x24″	46″	0-6-0 Re 2555—Sc 1923
15	Rogers	—— 8-16-1870		17x24″	54″	2-6-0
165						2-6-0 Scrap—1904
16	Rogers	—— 8-19-1870		17x24″	54″	2-6-0
166						2-6-0 Rebuilt
	Hartford Shops		1904	18x24″	45″	0-6-0 Re 2524—Sc 1925
17	Rogers	—— 2-22-1872		16x22″	60″	4-4-0
167						4-4-0 Scrap—1904
18	Rogers	—— 3-14-1872		17x24″	54″	4-4-0
168						4-4-0 Scrap—1904
19	Rogers	—— 4-30-1872		17x24″	60″	4-4-0
169						4-4-0 Scrap—1904
20	Rogers	—— 5-15-1872		14x22″	48″	2-4-4
170						2-4-4 Sc—1902
	New Haven Shops		1904	18x24″	45″	0-6-0 Re 2525—Sc 1926
21	Rogers	2593	1880	15x22″	48″	0-4-0
171						0-4-0 Sc—1902
	New Haven Shops		1903	18x24″	45″	0-6-0 Re 2531—Sc 1925
22	Rogers	2709	1881	19x24″	48″	2-6-0
172						2-6-0 Rebuilt
	New Haven Shops		1900	19x24″	57″	2-6-0 Re 645—Sc 1924
23	Rogers	2757	1881	19x24″	54″	2-6-0
173						2-6-0 Rebuilt
	New Haven Shops		1900	19x24″	57″	2-6-0 Re 646—Sc 1924
24	Rogers	2759	1881	19x24″	54″	2-6-0
174						2-6-0 Rebuilt
	New Haven Shops		1900	19x24″	57″	2-6-0 Re 647—Sc 1924
25	Rogers	2760	1881	19x24″	54″	2-6-0
175						2-6-0 Rebuilt
	New Haven Shops		1900	19x24″	57″	2-6-0 Re 648—Sc 1924
26	Rogers	2941	1882	18x22″	66″	4-4-0
176						4-4-0 Re 1774—Sc 1915
27	Rogers	——	1882	18x22″	66″	4-4-0
177						4-4-0 Re 1775—Sc 1909
28	Rogers	3218	1883	16x22″	52″	0-4-0
178						0-4-0 Sc—1901
	New Haven Shop		1903	18x24″	45″	0-6-0 Re 2532—Sc 1935

When the Central New England locomotives were brought into the New Haven series in 1927 a group of engines was assigned the following New Haven numbers:

150-164 Schenectady 1912 F-5, 24"x32" 63". Ex C N E Nos. 150-164

What the locomotives were on the Hampshire & Hamden and the Holyoke & Westfield roads, we do not know. Mr. Inglis Stuart, in Bulletin No. 34 refers to Nos. 1 and 2, both built by Breese, Kneeland & Co. in 1856 as coming to the Dutchess & Columbia R. R. on Feb. 15, 1869. The No. 3 was a Rogers engine but whether it was built for the road or purchased second hand, we do not know. These three engines possibly remained until the influx of the new power arrived.

179	Baldwin	#——	1888	18x24"	42"	0-6-0	Re 2598—Sc 1923
180	Baldwin	——	1888	18x24"	42"	0-6-0	Re 2599—Sc 1917

NAUGATUCK R. R.

In 1845 the State of Connecticut incorporated the Naugatuck R. R. with authority to build a railroad from Plymouth or Waterbury to Derby and thence to New Haven, Milford or Bridgeport. The route down the Naugatuck Valley seemed more feasible and so the road joined the New York & New Haven at what is now Devon and trackage rights were obtained to Bridgeport. The road was authorized to construct its line to Winstead and the entire line was opened for traffic on Sept. 24, 1849. It was a very busy little road, running up and down the Naugatuck Valley and it was leased to the N. Y. N. H. & H. on April 1, 1887.

In the matter of the locomotives of this road, thanks to the efforts of our member, Mr. C. B. Burr, we have a fairly complete record.

	Naugatuck	Rogers K & G	#172	5-11-1849	10x20"	60"	4-4-0	Sold	
	Winstead	Rogers K & G	#176	6- 6-1849	13½x20"	60"	4-4-0		
	Plymouth	Rogers K & G	#178	6-18-1849	13½x20"	60"	4-4-0		
	Waterbury	Rogers K & G	#179	6-26-1849	13½x20"	54"	4-4-0		
					Exploded 9-16-1869				
	Alfred Bishop	Rogers K & G	#180	7- 3-1849	13½x20"	54"	4-4-0		
	Jericho	Rogers K & G	# 9	1-16-1839	?	?	4-4-0	From H&NH R R—"Quinipiac."	
	Seymour	Taunton	#105	6- 5-1852	14½x20"	60"	4-4-0	Renamed	
	Humphrey Woolcutville	Taunton	#138	6- 4-1853	14x20"	60"	4-4-0		
1	B. Soules	Naugatuck R R		——	?	?	4-4-0		
181	(See Note)	Scrap—1892					0-4-0		
181		Rhode Island	#2883	1893	18x24"	45"	0-6-0	Re 2556 Sc 1924	
2	Alfred Bishop	Rogers	——	6- 8-1871	15x22"	60"	4-4-0		
182		Scrap—1902					4-4-0		
182		Rhode Island	——	1903	19x26"	57"	4-6-0	Re 965 Sc 1926	
3	J. G. Whitmore	Rhode Island	#1246	1882	17x24"	63"	4-4-0		
183		Re 1900—Scrap—1907					4-4-0		

4	Beacon Falls	Naugatuck R R		5- 2-1870	See Note		4-4-0
4		Rogers	1242	10- 1-1885	15x22″	48″	0-6-0
184		Re 2706—Scrap—1905					0-6-0
5	Russell Tomlinson	Rogers	2385	11-12-1874	15x22″	60″	4-4-0
185		Scrap—1896					4-4-0
185		Rhode Island		1903	19x26″	57″	4-6-0
					Re 966—Active		
6	Ansonia	Breese & Kneeland		?	?	?	4-4-0
6	A. L. Dennis	Rhode Island	1247	5- 8-1883	17x22″	63″	4-4-0
186		Re 1901—Scrap—1907					
7	Derby	Rogers	531	11- 9-1864	14½x22″	54″	4-4-0
7		Rogers	3566	8- 8-1885	17x24″	62″	4-4-0
187		Re 1933—Scrap—1914					
8	Naugatuck	Rogers	——	5-29-1866	14½x22″	54″	4-4-0
8		Rogers	3722	4- 1-1887	16x24″	68″	4-4-0
188		Re 2006—Scrap—1915					4-4-0
9	Litchfield	Rogers	——	4-16-1867	14½x22″	54″	4-4-0
189		Scrap—1891					4-4-0
189		Rhode Island	2741	1892	19x24″	56″	2-6-0
					Re 631—Sc 1925		
10	Torrington	Grant	——	1868	?	?	4-4-0
					Sc—prior to 1887		
190		Rhode Island	——	1903	19x26″	57″	4-6-0
					Re 967—Sc 1927		
11	Seymour	Rogers	——	7-24-1869	15x22″	60″	4-4-0
191		Scrap—1903					4-4-0
191		Baldwin	——	1904	18x24″	45″	0-6-0
					Re 2526—Sold 1925		
12	Waterbury	Rogers	646	6-15-1870	15x22″	60″	4-4-0
192		Scrap—1898					4-4-0
192		Rhode Island	——	1903	19x26″	57″	4-6-0
					Re 968—Sc 1927		
13	G. W. Beach	Rogers	2458	11-20-1877	15x22″	62″	4-4-0
193		Scrap—1903					4-4-0
193		Baldwin	——	1904	18x24″	45″	0-6-0
					Re 2527—Sc 1925		
14	Thomaston	Rogers	2562	12-12-1879	15x22″	61¾″	4-4-0
194		Scrap—1898					4-4-0
194		Rhode Island	——	1904	19x26″	57″	4-6-0
					Re 969—Sc 1926		
15	E. F. Bishop	Rogers	2788	8- 5-1881	16x24″	61¾″	4-4-0
195		Re 2031—Scrap—1918					4-4-0
16	R. M. Bassett	Rhode Island	1383	7- 3-1883	17x22″	63″	4-4-0
196		Re 1899—Scrap—1915					4-4-0
17	J. B. Robertson	Rogers	3472	5-14-1884	17x24″	62″	4-4-0
197		Re 2028—Scrap 1906					4-4-0
18	——	Rogers	3557	5- 5-1885	16x24″	63″	4-4-0
198		Re 2027—Scrap 1905					4-4-0
19	——	Rogers	——	6-24-1887	18x22″	68½″	4-4-0
199		Re 1764—Scrap—1907					4-4-0

NOTE: The "B. Soules" was built at the shops of the Naugatuck R. R. at Bridgeport from the engines "Jericho" and "Plymouth".

In a like manner, the "Beacon Falls" was built from the "Winstead" and "Waterbury." It is possible that some of these early engines carried numbers, but of this we are not certain.

As I remarked in Bulletin No. 40, when the New Haven grouped their locomotives into classes and renumbered their engines in 1904, the locomotives of the Central New England R. R. were assigned from Nos.

1-199. On the electric division, the electric locomotives were assigned low numbers but carried the prefix "O" before the number. In this way there was no confusion with the New Haven series of engines, as renumbered in 1904, which commenced with No. 200.

The engines of the old 200 series were the bon ton of the New Haven power of their day. All locomotives of this series came from the Rhode Island Works and they handled the best trains. In order to simplify this list, the locomotives will be grouped.

200-209	Rhode Island	1889	4-4-0	18x24″	63″	Re 1727-1736	Sc 1917-23
210-219	Rhode Island	1891	4-4-0	18½x24″	68″	Re 1640-1649	Sc 1923-26
220-224	Rhode Island	1891	2-4-4T	14x20″	49″	Re 2134-2138	Sold 1906-07
225-226	Rhode Island	1892	2-4-4T	14x20″	49″	Re 2139-2140	Sold 1906-07
227-234	Rhode Island	1892	4-4-0	19x24″	68″	Re 1415-1422	Sc 1925
235-237	Rhode Island	1892	2-4-4-T	14x20″	49″	Re 2131-2133	Sold 1906-08
238-239	Rhode Island	1892	0-6-0	18x24″	57″	Re 307 & 309	
240-255	Rhode Island	1893	4-4-0	20x26″	78″	Re 1559-1574	Sc 1925-27
256-265	Rhode Island	1893	2-6-0	20x26″	63″	Re 536-545	Sc 1925-26
							545 sold to CNE as #131 scrap—1927
266-275	Rhode Island	1894	2-6-0	20x26″	63″	Re 526-535	Sc 1925-26
							#532 active
276-300	Rhode Island	1895	2-8-0	21x26″	51″	Re 200-224	Sc 1925-27

Nos. 240-255 were designed to burn hard coal and were assigned to the New York-New Haven runs. In later years they were rebuilt, the drivers cut down to 69″ and the cylinders cut down to 18x26″.

The following engines were assigned in the 200 series in 1904:

200-224	Rhode Island	1895	2-8-0	P-1	21x26″	51″	Ex 276- 300
235-244	Baldwin	1894	2-8-0	P-2	20x26″	57″	1088-1097
245	Hinkley	1882	2-8-0	P-5	19x22″	51″	259-1006
246	Hinkley	1882	2-8-0	P-5	19x22″	51″	261-1007
247	Hinkley	1882	2-8-0	P-5	19x22″	51″	262-1010
248	Hinkley	1882	2-8-0	P-5	19x22″	51″	264-1012
249	Hinkley	1882	2-8-0	P-5	19x22″	51″	265-1008
251	Hinkley	1882	2-8-0	P-3	22x22″	51″	1009
252	Hinkley	1882	2-8-0	P-3	22x22″	51″	1011
253	Hinkley	1882	2-8-0	P-3	22x22″	51″	1013
254	Hinkley	1881	2-8-0	P-3	22x22″	51″	Ex 946
255	Hinkley	1881	2-8-0	P-3	22x22″	51″	998
256	Hinkley	1881	2-8-0	P-4	20x24″	51″	995
257	Hinkley	1881	2-8-0	P-5	19x22″	51″	996 Scrap before 1907
258	Hinkley	1881	2-8-0	P-5	19x22″	51″	997 Scrap before 1907
259	Hinkley	1881	2-8-0	P-5	19x22″	51″	999 Scrap before 1907
260	Hinkley	1881	2-8-0	P-5	19x22″	51″	1000 Scrap before 1907

In the renumbering of locomotives, dated September, 1904, it was the intention of the road to assign the P-3 engines from Nos. 250-255 incl. and the P-5 from Nos. 257-264 incl. The coming of the new moguls in 1907 caused a re-arrangement of these numbers and the numerical assignment is taken from the 1907 roster and even this does not fully explain the renumbering.

Continuing with the new series, two lots of new engines were delivered in 1907:

260-284	Baldwin	1907	2-6-0	K-1-b	20x28″	62″	153000
285-299	Cooke	1907	2-6-0	K-1-b	20x28″	62″	153000

Of the above engines, Nos. 260, 262, 268, 270, 272, 274, 276, 278, 281, 287, 290-291 and 294 are still active. The others were scrapped between the years 1928 and 1935. The majority of these engines were rebuilt with outside gears and superheaters were applied. The New Haven had 240 of this class of mogul engines. They were much preferred to the consolidation class, those that the New Haven had had a very small driver—51″. Unquestionably the latter did good service on the old New York & New England R. R., their original owners, a road having very heavy grades, but the idea of a standard type of freight locomotive was beginning to make itself felt and the mogul was adopted as the best for the service. During the years of their service on this road, they not only performed faithfully in freight service but in later years many were used in local passenger service on the east end of the road. Many of our boys in the Great War were taken either to or from the various training camps on special trains handled by these moguls.

This series of locomotives will be continued in Bulletin 43.

Letters to the Editor

June 14, 1936.

Sir:—May I make a suggestion in view of the ever-increasing interest of our Bulletins? It is that members (on whose help and energy the continued success of the Bulletins relies) collect as many old time railroad men as they can amongst their acquaintances, and get authentic stories of past railroad days from them; write the (only) authentic data in the form of a lucid "interview" or article and send it to you, Sir, for your consideration. Will the artists who can draw accurate pictures of old railroad scenes also come forward and help out those excellent Kuhler, Schefer and Pennoyer drawings which are such a fine feature of your publication? Do any members know of truly authentic models of old time locos? In some old engineer's home I reckon there must often be stored away a model—maybe only half complete—of the old man's "first love."

Finally, might I suggest that more members—especially those with long railroad experience—write to you and tell of various incidents of interest to others which they saw or underwent in past days. Personal experiences of the "How we used to do it" kind are always of great interest to the historian.

Yours &c.,

—Maurice Griffiths.

Yesterdays on the Long Island

By Arthur Curran

FOR some time past, certain members of the Society have desired publication of a motive power history of the Long Island. By this is meant a list of engines built specially for the road. Obviously, inclusion of locomotives built to Pennsylvania standards would be a duplication of work done elsewhere.

The difficulties of this enterprise are great enough, but are increased by the reluctance of competent men to engage in the task. Due to renumbering and general shuffling around, the job might well daunt the most courageous. Perhaps, however, a brief monograph, calling attention to the interest of this subject, might encourage some hardy brother to wade in and win!

The Long Island Railroad was incorporated in 1834 to build a line from Brooklyn to Greenport, 95 miles, as part of a through route to Boston. This, indeed, it was for several years. The construction of railroads in Connecticut ended this traffic, however, and no further attempt was made to regain it until 1891 when the Eastern States Line was operated from September 21 of that year until July 18, 1892.

The two earliest locomotives were built by M. W. Baldwin for the Brooklyn & Jamaica, and passed with the lease to the Long Island. The first was the "Ariel", finished in November 1835, and the 19th turned out by Mr. Baldwin. The second was named "Post Boy," and finished in May, 1836. It was used by the Long Island until 1852, and then sold.

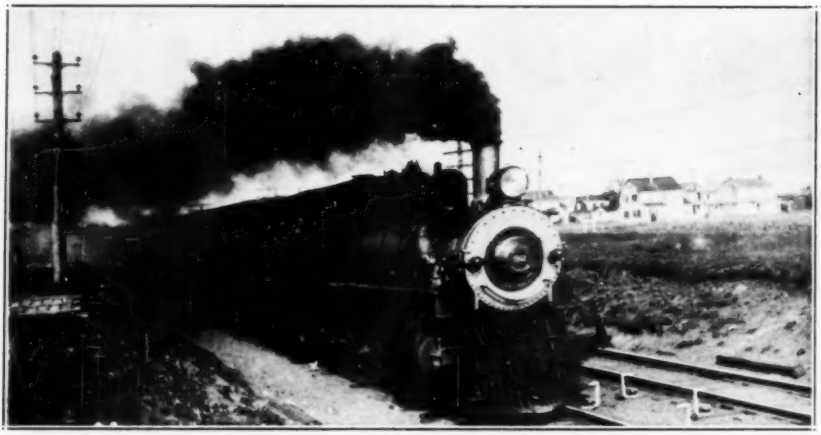
These engines were alike, having 10x16″ cylinders, 54″ drivers, 14,000 lbs. weight, 38½″ diameter of boiler, and 84 flues. They cost $7,000 each and were of the 4-2-0 type. In this respect, they were not different from other locomotives of the period; nor, from what can be ascertained at present, did the road exhibit any of the fondness for novelty, at that time, for which it became noted later.

The work of hunting up information about these early locomotives belongs to a research specialist. What is important, just now, is the fact that, by the time most roads had settled down to definite principles of design, the L. I. R. R. was still experimenting with odd little tea-kettles of various types and curious shapes. They, doubtless, grew out of attempts to evolve satisfactory power for the numerous branches and short lines at the west end of the system.

Baldwin got a considerable amount of business from the road, from first to last. For a time, however, Rogers engines were favored, with Cooke also well regarded. Schenectady and Brooks got some orders, and Mason furnished bogies for the road and some of its subsidiaries.

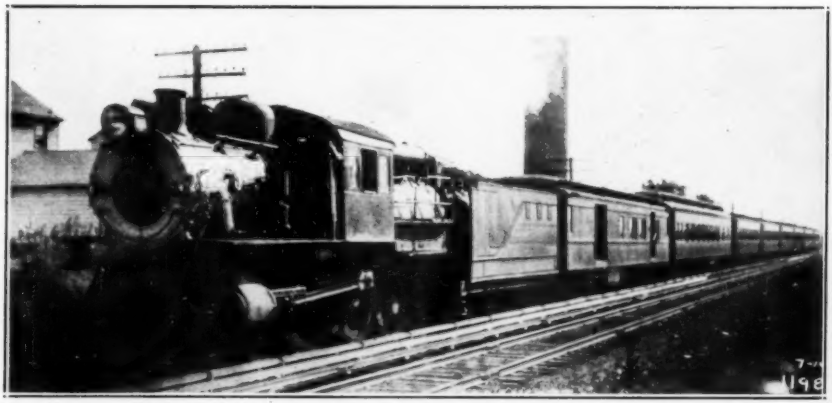
In due course, the L. I. went in for the 4-4-0, 4-6-0, Forney and 0-6-0 types. But what examples of them! Both Rogers and Cooke built American type engines with large cabs having sheet-iron hoods over the gangways. The dome was inside the cab; necessitating a curious throttle-rig

First Train into Greenport after a Severe Snowstorm. Courtesy of Wm. C. Moore.



Courtesy of C. B. Chaney.

L. I. R. R. #92 and 10 Cars at 60 M.P.H.



Courtesy of C. B. Chaney.

L. I. R. R. #4 with 7 Coaches and 1 Pullman (second car).

and other novelties. Eventually, the hoods were removed; but, even then, the engines presented an unusual appearance.

The Ten Wheelers, supplied by the builders for freight service, included similar peculiarities.

To describe the many small types would require more space than can be given to this brief account of "the railroad on a sandbar."

It was not until the "Gay Nineties" that the road began to purchase power for designs in common use. In the early years of that memorable decade, Baldwin built some stout little 4-4-0 engines for passenger service and some Vauclain 4-6-0 locomotives for freight. These were followed by some 4-4-0 engines from Brooks. In the period, too, some of the old Rogers and Cooke engines were re-built with Wootten boilers. Somewhat later, a number of Mother Hubbard engines of various types were supplied by Brooks and Baldwin. Notable among them were the Baldwin Atlantics, which must not be confused with the engines of the same type furnished later by the Pennsylvania. There were, also, a number of Baldwin 4-4-0 engines, like the earlier ones, but heavier and more powerful. The purchase of Mother Hubbard engines stopped abruptly.

Passenger cars were finished in red with aluminum lettering and striping. The gold or yellow trimming did not appear until some time after the Pennsylvania obtained control. Vestibuled equipment was used only on the briefly operated Eastern States Line. Large numbers of very old and curious cars were used on the Main Line, the Montauk Division and elsewhere.

Parlor cars were owned by the road; the older ones built by Woodruff, and without vestibules.

Early power brakes were operated on the vacuum system. Later changed to air. During the transition period, passenger engines were equipped with ejectors and pumps.

Freight cars were painted light red, and not allowed off the road. There was not a caboose in the old days. Antiquated coaches were used as "riders."

The road did not feature names for trains, though there was a pretty good job on the main line known as the "Shelter Island Express." On the Montauk Division, the "Cannon-ball" and the "Amagansett Express" took the honors. All were fairly heavy, running from 6 to 8 cars, and even more in later years.

Speed was about 50 m.p.h., though doubtless exceeded at times. Some fancy running was not unknown!

The road was criticised bitterly for poor service, inferior cars and black smoke, together with high rates and what-not. The critics failed to consider, however, that much of the road's traffic was short-haul business; and, as such, unprofitable. Electrification of the net-work of track at the west end of the island soothed some of the battling fire-eaters, but gave them another talking-point whenever snow-storms "folded up" the service! The last time that these sons of wrath cut loose was a circus! But not for the luckless management. Giving people what they want is not always an unqualified success.

Although the road maintained a station in Brooklyn, the chief terminus was at Long Island City for many years prior to use of Pennsylvania facilities in New York.

The accompanying illustrations are intended merely to indicate lines of inquiry.

Acknowledgments are due to Mr. William C. Moore for the photo of the first train into Greenport after a severe snow-storm of long ago. All three engines are of the 4-4-0 type; the first and third being Rogers, and the second a Baldwin.

The photos of Nos. 92 and 4 was taken by Mr. Charles B. Chaney. No. 92 was a Baldwin 4-4-0, and one of the last of that type furnished by the builder to the L. I. R. R. No. 4 was a Baldwin Atlantic of the class mentioned earlier in this account.

Like other railroad men, the Long Islanders strongly favored the American type and thought well of their own. Years ago, in speaking of the Eight Wheelers on another road, one of them remarked: "They're no better than ours—they're only jacked up higher!" Which was his way of sniffing at big driving wheels.

The boys on certain runs did not object to Forney engines, but strenuously opposed some large double-enders with big sidetanks. The latter were "bounced," and sold to the Jersey Central.

At various times, attempts were made to establish a port for trans-Atlantic steamers at Montauk. There were merits in the scheme, but it would have cut into the shipping business at New York, and given the Pennsylvania an undue advantage. At any rate the project was blocked every time it was proposed.

The Long Island is of interest as a railroad which, throughout its history, has been called upon to handle unusual crowds at certain hours of the day and during the summer. Freight never has brought the revenue so helpful to many other roads. Hence, the operating and financial problems of this property are exceptionally difficult. It is isolated, with but one outlet.

Boisterous race-track crowds stormed its terminus every summer, roared off to Sheepshead Bay or elsewhere, and stormed back again. Beach excursionists, vacationers, seasonal visitors and year-round commuters milled about by thousands at the more important stations. Most of this traffic was moving on cheap tickets, but expecting everything to be 100 per cent. PLUS!

When the blast was over, the road settled down to bucking snow and getting what traffic it could on 110 miles of sand-bar.

The statement has been made that the Island was over-built with railroads; which, doubtless, is true. It should be remembered, however, that, prior to the motor age, the field was very tempting. No one could know exactly how things were going to shape up and work out. That, incidentally, applies to all the concerns of life. It is easy enough to be wise in retrospect.

A very eloquent sermon could be preached on Man's happiness in a perfect world. That reminds one, though, of the classic recipe for rabbit pie: "FIRST CATCH YOUR RABBIT!"

General Mining Association

SYDNEY MINES, NOVA SCOTIA

By Robert R. Brown

THE General Mining Association was organized in 1827 to take over and operate the coal mining rights, in Nova Scotia, formerly owned by the Duke of York. Operations started the following year, in Pictou County, and, among other works, a short horse operated railway was built in 1829, being the first in British North America. In 1838 it was rebuilt and extended and locomotives used. Later on two other short railways were built in connection with the Association's coal mines and for these lines they imported twelve locomotives and built one. In 1885, when the Victoria Mine was opened, a railway was built from the mine, near New Waterford, to the shipping pier, near Sydney, and to work this line a locomotive, the "C. G. Swan", was built in the G. M. A. foundry and machine shop at Sydney Mines. The engine was designed by, and the building supervised by, John Elliot, the chief engineer, and it was named after one of the principal directors. It was a 0-6-0 saddle tank shunting engine, with English type plate frames, weighed about 35 tons and was fitted up in first class style. The tires were imported from England but the wheels and cylinders were cast and finished at Sydney Mines as was all the other material.

No photograph of this engine has yet been found.

LOCOMOTIVES USED ON THE GENERAL MINING ASSOCIATION'S RAILWAYS IN NOVA SCOTIA

Albion Mine Railway			*Stellarton to Abercrombie*			*6 miles*
1838	Samson	0-6-0	15¾x16″	48″	Timothy Hackworth, New Shildon.	
1838	Hercules	0-6-0	15¾x16″	48″	Timothy Hackworth.	
1838	John Buddle	0-6-0	15¾x16″	48″	Timothy Hackworth.	
1848	Vulcan	2-4-0	15x24″	60″	R. B. Longridge & Co., Bedlington.	
1854	Albion	0-6-0	15x24″	48″	Rayne and Burn, Newcastle-on-Tyne.	
1854	Pictou	0-6-0	15x24″	48″	Rayne and Burn.	
1880	Sir George Elliot	0-6-0T	15x24″	48″	Black and Hawthorne, Gateshead.	
Sydney Mines Railway			*Sydney Mines to North Sydney*			*3 miles*
?	Halifax	0-6-0	12x20″	60″	Builder unknown.	
?	Sydney	0-6-0	12x20″	60″	Builder unknown.	
1868	Stephenson	0-4-0	?	?	Builder unknown.	
1872	John Bridge	0-4-2	15x23″	66″	Lowka Engine Works, Fletcher, Jennings, & Co., Whithaven.	
1894	J. D. Hill	4-4-0	?	?	Baldwin Loco. Works.	
Victoria Mine Railway			*New Waterford to South Bar of Sydney Harbour*			*3 miles*
1885	C. G. Swan	0-6-0T	14x23″	58″	General Mining Assoc. Sydney Mines, N. S.	

Three of these engines are still in existence; the "Samson" and the "Albion" are in the Canadian National Railway Station at Halifax and the "J. D. Hill" is still in service on the Maritime Coal, Railway and Power Co.'s line between Maccan and Joggins, N. S.

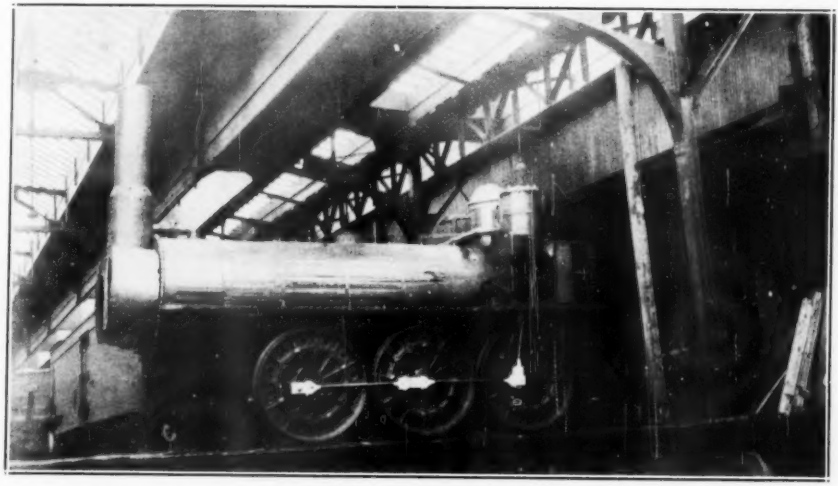
TWO OLD LOCOMOTIVES ON EXHIBITION AT HALIFAX, NOVA SCOTIA

SAMSON

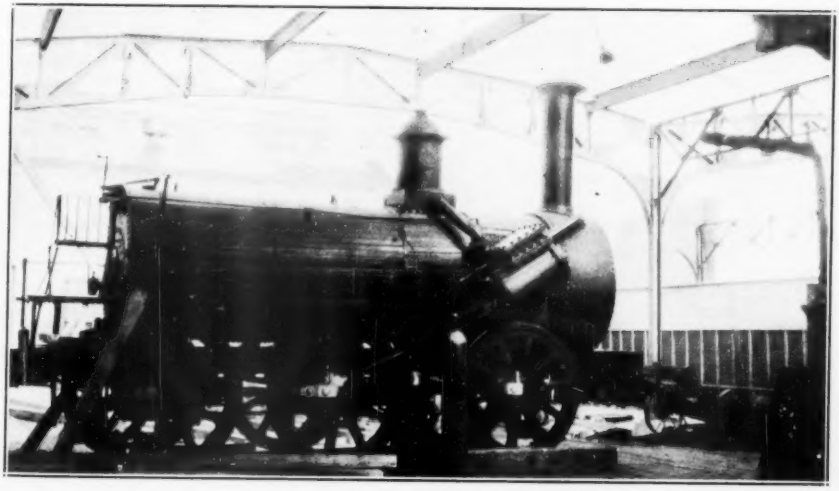
The "Samson" was built by Timothy Hackworth at New Shildon, England, during the summer of 1838 and was put to work on the Albion Mine Railway in December of that year. The boiler is about thirteen feet long and about four feet diameter; has a large U-shaped return flue in place of the usual fire box and tubes, and it was fired from the front end. The cylinders, 15¾"x16", are mounted, vertically, at the rear end; the piston rods are guided by Watt's parallel motion instead of the usual cross heads and slide bars, and the main rods are connected directly to the rear driving wheels. The engine has no frame; the axle bearings are bolted to sheet iron brackets which are riveted to the under side of the boiler and only the front and middle axle bearings are fitted with springs. The six wheels are 48" diameter and are the usual Hackworth plate type. Six miles per hour was a fair speed for the "Samson" but old engineers say it was the best hill-climber on the line and was the least troublesome.

ALBION

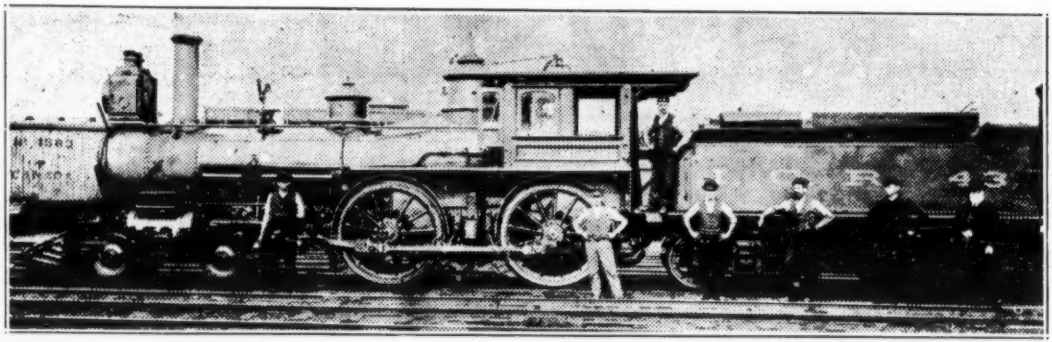
The "Albion" was built for the Albion Mine Railway by Rayne and Burn, of Newcastle-on-Tyne, in 1854. It has a multitubular boiler, wood and wrought-iron "sandwich" type frame, Stephenson's link valve gear and inclined cylinders, about 15"x24", connected to the middle pair of wheels. When this engine was exhibited at Chicago in 1893 and at Halethorpe in 1927 it was erroneously described as a Hackworth of 1839. Where this story originated is uncertain but the appearance of the engine alone should be sufficient proof that Hackworth had nothing to do with it. The builders' name plate is still on the engine and I have been assured by mine officials and old engineers of the line that it really was built by Rayne and Burn. One old-timer, now dead, remembered the arrival of the "Albion" and the "Pictou" in 1854 and was sure they were new then. He also knew of Rayne and Burn very well as they had sent out boilers, pumps and other machinery used about the mine.



Albion Mines Railway Locomotive "Samson", Timothy Hackworth, builder. 1838.



Albion Mines Railway Locomotive "Albion", Rayne and Burn, builders. 1854.



(Halifax Herald Photo)

Intercolonial Railway—Locomotive #43. Built about 1872 by Montgomery Iron Works, Halifax.
4-4-0 16x22 61" 38 tons.

Montgomery Iron Works, Halifax, Nova Scotia

By Robert R. Brown

WITH the single exception of the locomotive "C. G. Swan", built in 1885 in the machine shop of the General Mining Association at Sydney Mines, the only locomotives ever built in the Province of Nova Scotia were seven built, or at least started, in Montgomery's machine shop, in Halifax, for the Intercolonial Railway.

The Nova Scotia Railway, originally a Provincial Government venture, was taken over, together with the European and North American Railway in the Province of New Brunswick, by the Federal Government in 1867 to form part of the Intercolonial Railway, then projected to run from Halifax and Saint John to Riviere du Loup, where connection was to be made with the Grand Trunk Railway of Canada. For several years after the transfer of ownership, the Nova Scotia Railway was isolated from the other government lines and it continued to be known, popularly if not officially, by its old name until November 1872, when a new line from Truro to Painsec, connected it with the European and North American Railway and through service between Halifax and Saint John was inaugurated. In anticipation of the opening of this through line, the government ordered a considerable number of new locomotives; ten from the Blood Works, Manchester, N. H., fifteen from Dubs & Co., Glasgow, Scotland, thirteen from the Portland Co., and the Montgomery Iron Works, of Halifax, secured an order for the building of ten.

Montgomery had had no experience with locomotives so the plans were drawn, and the work supervised, by Emil Vossnack, a civil and mechanical engineer, born at Remscheid, Germany, and who had just come to Halifax from New York. These engines proved to be very powerful and, except for two minor faults, gave good service. Probably due to the fact that Vossnack was not familiar with winter conditions in Canada, the cylinders were placed a little too low and they projected too much at the sides so during the winter, when snowstorms were frequent and severe, the engines gathered more than their share of snow. Then there was an error of about 3/16 of an inch in the drafting of the original plans for the cylinders and after the engines had been in service awhile and the pistons began to wear slightly they frequently knocked the front cylinder heads out. This fault was corrected and no further mechanical trouble developed. The first three locomotives were completed as quickly as the primitive facilities would permit and were hauled to the railway terminus, at Richmond, nearly two miles away, along temporary tracks laid over the old horse car tracks of the street railway. At first it was attempted to haul them with teams of horses and oxen but unsuccessfully and a horse operated windlass was used. This disrupted ordinary traffic on the streets too much so the next pair were hauled over temporary tracks by a much longer but less busy route. Possibly because of the defective design of the cylinders, Montgomery then threw up his contract and went into liquidation, though at the time he had in his shop most of the material for two more locomotives ready to assemble. This material

was taken by the railway to its shops at Richmond and the two locomotives were completed there.

These seven locomotives were built in 1872 and 1873; were numbered from 43 to 49 and in June 1875, when the gauge of the Intercolonial Railway was changed from 5′ 6″ to 4′ 8½″, they were among those altered to suit the new gauge. Only one rather poor picture of these engines is known to exist and it shows No. 43 after it had been rebuilt standard gauge and a straight stack and an extended smoke box substituted for the original balloon stack and short smoke box. The exact dimensions of these engines are not known but as the picture shows an engine almost identically the same as those built by Dubs & Co., it is likely that the dimensions were about the same.

No.	43	Built	1872	Cylinders	16″x22″	Drivers	61″	Weight 38 tons
	44		1872		"		"	"
	45		1872		"		"	"
	46		1873		"		"	"
	47		1873		"		"	"
	48		1873		"		"	"
	49		1873		"		"	"

Information supplied by Mr. D. A. Story, formerly an official of the Nova Scotia and Intercolonial Railways.

Knox Railroad, Formerly Georges Valley R. R.

By Harold S. Walker

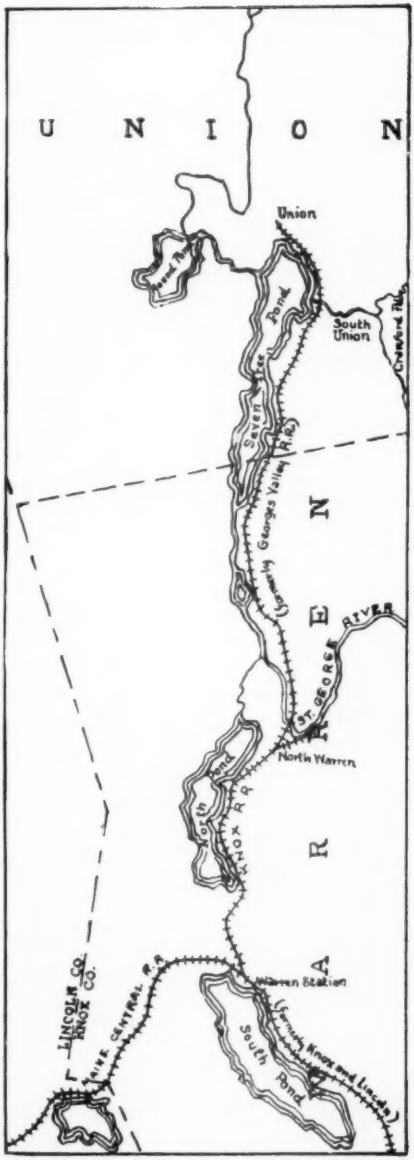
HISTORY

THE Georges Valley Railroad was incorporated in the State of Maine in August 1889. It commenced regular operations in December 1893. The original plans called for a two-foot or three-foot gauge, but the road was built standard gauge, with 51-lb. rails. These rails are still in use except for about 1/5 mile on Ben Payson Hill where 75-lb. rail was laid in 1923.

The contractor for the road was James Mitchell who built the Belfast & Moosehead Lake, the Portland & Rumford Falls and the Wiscasset & Quebec (later the Wiscasset, Waterville & Farmington). The cost of construction was $80,992, and the initial cost of equipment was $4,172.56.

In 1918 the Georges Valley Railroad was sold to the Knox Lime Co., a subsidiary of the Great Northern Paper Co., for $59,600. and was reincorporated in 1919 as the Knox Railroad.

The main line of the road extends from Warren, on the Rockland Branch of the Maine Central (formerly Knox & Lincoln R. R.), to Union, a distance of about eight miles. A branch to the quarries at Union is about ½ mile long and there was formerly a branch about 1/3 mile in length to the lime kilns at North Warren. This lime kilns branch was taken up in 1920-21.



MAP OF THE KNOX R.R.

KNOX COUNTY, MAINE

FORMERLY GEORGES VALLEY R.R.

19	TIMETABLE		32
M		READ DOWN †	READ UP *
0	Union	Lv. 7.30 A.M.	Arr 10.40 A.M.
8	Warren	Ar 8:15 A.M.	Lv 8.55 A.M.

† Connects with MeC #74 arr Warren 8.19 A.M.

* Connects with MeC #75 arr Warren 9.46 A.M.

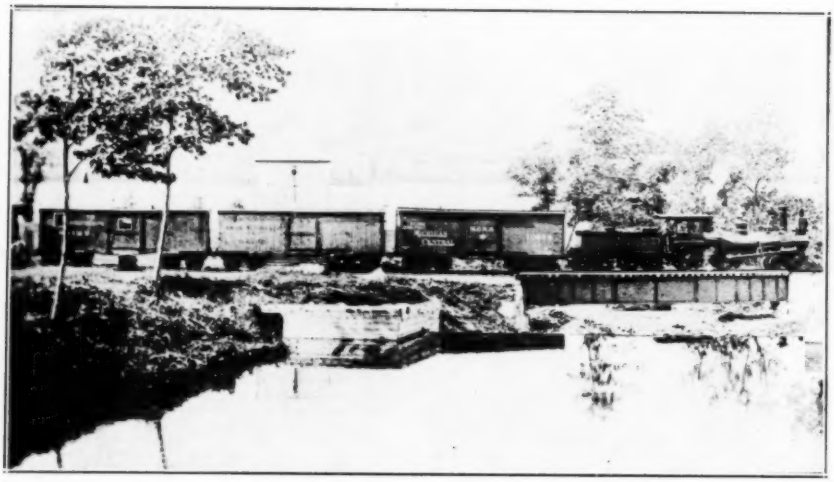
Jan. 1, 1935 - 3 Trains a Week

Passenger Service Discontinued - 1935

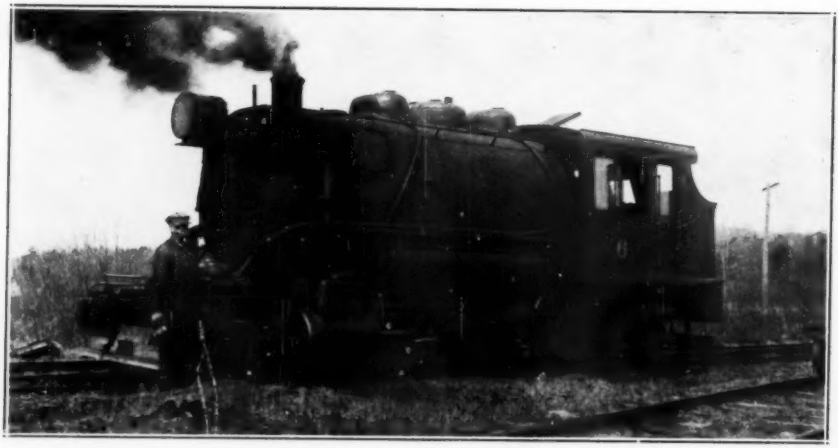
MILEAGE

Main Line	8.0
Lime Kiln Branch	0.5
Total	8.5

H.S. Walker, Nov. 1935



Georges Valley R. R. #1.



Knox R. R. #6. Cook Wks. A. L. Co., 1924.

There are 22 curves in the eight-mile line. There are no protected grade crossings, and this is the only railroad in the United States where cattle have the right of way. At the so-called cattle crossing, gates across the track must be opened by the fireman for the passage of the train and be closed again after the train has passed.

One long wooden bridge spans the Georges River at North Warren. An item of interest in connection with this bridge is the story that the contractor erred in interpreting his blueprints or his survey with the result that the bridge was built just its width too far upstream. This necessitated an extremely sharp curve to enter the bridge which condition was not remedied until 1919 when the Knox R. R. built a new bridge just east of and downstream from the old one.

An interesting story also concerns the smaller bridge at South Union. The specifications called for a wooden span, but due to the many new railroad extensions being built at the time and the quantities of material enroute to different contractors, a nice girder bridge came into Warren along with a shipment of rail and fastenings. This was, of course, a mistake as the bridge was consigned to another line under construction, possibly the Sebasticook & Moosehead, but Mr. Mitchell saw his opportunity and hauled it to South Union and erected it. He then offered the rightful owners a "fair price" for it. The original specifications called for wooden bridge because orders for steel ones were booked so far ahead that deliveries were far behind—hence the contractor's eagerness when one fell into his hands.

One of the first regular trains made the run from Warren to Union in 12 minutes. A timetable for 1898 gives the running time as 20 minutes, including the South Union stop and possibly flag stops. The last timetable dated 1932 allows 45 minutes to make the run.

The road ceased all operation as a common carrier in October 1932, thirty-nine years to a day from the first official run. It is now operated as a private railroad and is used to haul from the quarries at Union. The track is in poor condition, having had no work done on it since 1932.

STATIONS, ETC.

Station and General Offices, Union. Erected 1892.
Station, South Union. Erected 1892. Had an agent in 1898. Razed, 1928.
Scott's Siding. Flag Stop. Abandoned.
Kiln Crossing, North Warren. Flag Stop. A building, originally the contractor's office served as a station from 1893 to 1930.
Station, Warren. Used jointly with the Maine Central.
Water tank at South Union, Engine-house at Union, Freight House at Union.

EQUIPMENT ROSTER—LOCOMOTIVES

No. 1 4-4-0 Built by the New Haven R. R. and brought to this road by the contractor who had used it previously in building the Portland & Rumford Falls R. R. It was an old engine then. It was purchased for $1500 and ran until 1897 when it was scrapped. This engine was known as "Old Bald" by the men because the drivers were flangeless. This condition bothered so much that the engine was finally sent to Rockland and had tires put on.

No. 2 4-4-0 There is some doubt as to what this engine was. It is thought that it was a Portland Co. locomotive built in 1888 and listed in the Maine Central roster of 1895 as No. 47. It replaced the No. 1 and was scrapped in 1900.

No. 3 4-4-0 Ex-Portland & Ogdensburg "Pequawet" No. 6, Ex-Maine Central No. 106 and 24. Built by Portland Co. 1873 and rebuilt by the Maine Central 1892. Scrapped in 1909 when firebox gave out. 16x24" cyl. 60" drivers.

No. 4 4-4-0 Ex-Maine Central "Wm. G. Davis" No. 63 and later No. 32. Built by Portland Co. 1877 and rebuilt by Maine Central 1909. Purchased 1909 and scrapped in 1924. 16x24" cyl. 60" drivers.

No. 5 4-4-0 Ex-Maine Central No. 24 and 59. Rhode Island 1885, rebuilt in 1907. Purchased by Knox 1920. Serviceable 1934 but not used since 1931. 17x24" cyl. 52" drivers.

No. 6 2-6-2T Built for Knox R. R. 1924 at Cook Works, American Locomotive Co. 16x24" cyl.

OTHER EQUIPMENT

Car No. 1	Ex-Maine Central Comb.	Scrapped 1905	Plow Ex-MeC No. 12
Car No. 2	Ex-Maine Central Comb.	Scrapped 1919	Flanger — Homemade in 1898.
Car No. 3	Ex-D. L. & W. No. 838 Comb.	Bought 1920.	

The author wishes to acknowledge the assistance of Mr. Linwood W. Moody, of Union, Maine, an ex-employee of the Knox R. R., in preparing this material. Mr. Moody furnished much of the original data.

Brief Sojourns

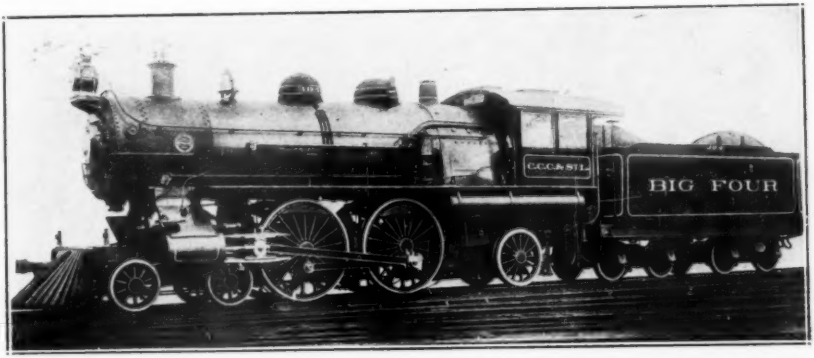
By Ann Arbor

TOLEDO, Ohio has ever been quite a railroad center and probably will be for some years to come. Although the city lacks the facilities of a modern passenger station, still at the time I have in mind, it was a most interesting place to observe train operation. It was rightly termed—Union Station, as it was used by all of the dozen or more roads which converged there.

Of course the old Lake Shore & Michigan Southern was much in evidence and I have already made reference to the "Prairie" types on that road. Another New York Central subsidiary was the Cleveland, Cincinnati, Chicago & St. Louis Ry., aptly called the "Big Four."

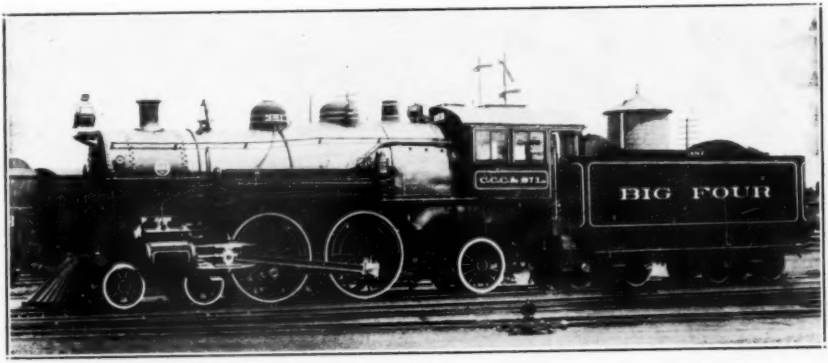
This road enters Toledo over the tracks of the Toledo & Ohio Central Ry., another one of the New York Central family roads, and, in connection with the Michigan Central from Toledo to Detroit, afforded a through route from Detroit to Cincinnati, that important southern gateway. The only other competitor at that time was the Cincinnati, Hamilton & Dayton—Pere Marquette Roads.

The number of trains operated over this route, say around 1910, was typical of that operated on the majority of the roads in that section —morning, noon and night, the hours being set at the two terminals which meant on southbound trains their schedule was a little better than two hours in leaving Toledo.



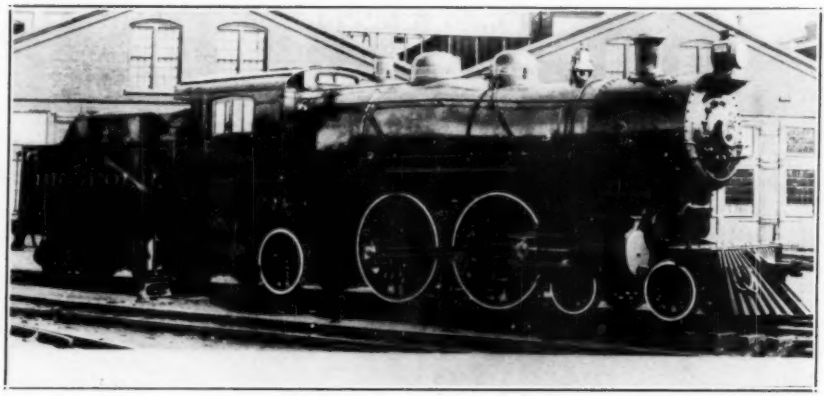
Courtesy of Arthur Curran.

C. C. C. & St. L. #394. Brooks, 1902.



Courtesy of Arthur Curran.

C. C. C. & St. L. #381. Brooks, 1903.



Courtesy of Arthur Curran.

C. C. C. & St. L. #574. Brooks, 1903.

Courtesy of C. E. Fisher.

C. C. C. & St. L. #6907 leaving Toledo on 2.00 P. M. 3-Car Train for Cincinnati.

From Detroit to Toledo, the trains were handled by Michigan Central power, usually of the Atlantic type. The trains were made up first of the "Big Four" equipment and additional through cars were placed in the rear. Since the "Big Four" operated observation chair cars on the morning and noon trains, these trains presented a rather odd appearance with this car in the middle of the train. The morning train carried in addition to the Cincinnati equipment, through cars to Cleveland and Pittsburgh via the L. S. & M. S. and P. & L. E. routes. The noon train carried in addition to the Cincinnati equipment, a through chair car to Pittsburgh and a sleeper to Washington, via the Pennsylvania, that road not yet having effected an entrance to Detroit. South of Toledo, these trains were usually made up of three cars—a combined baggage and smoker; a cafe coach, a coach and dining car and the observation chair car. Multum in parvo! The modern streamlined train has nothing on the facilities offered on these three car trains that ran between Toledo and Cincinnati. They were usually handled by an Atlantic type locomotive and more will be said of these engines later.

The night train was exceedingly heavy. In addition to the Cincinnati and Indianapolis sleepers out of Detroit, there were Pittsburgh and I'm not sure but a Columbus sleeper over the T & O C. These were dropped at Toledo and the Toledo cars for Cincinnati and Indianapolis were added. A Pacific type usually handled this job out of Toledo for in addition to the sleepers there were through coaches, mail and express matter.

Of the three classes of Atlantic type known to me and used on the "Big Four", two of them, at one time or another, handled the day trains and possibly the night trains in and out of Toledo. The first of these classes came from the Brooks Works in 1902. They had 20½x26″ cylinders, 78″ drivers, weighed 186,000 lbs., 51.7 sq. ft. of grate area, tank capacity of 10 tons coal and 6000 gals. water. The #394 illustrates this class. How many engines there were on this order, I don't know, but it is safe to assume that there were at least ten. They were an exceedingly trim looking engine with their straight running boards and capped stacks.

In the next year another lot was delivered by the Brooks Works and there were at least ten in this class as illustrated by the #381. The basic designs were the same but the use of the Davis counterbalance, the new location of the air reservoirs made quite a bit of difference in their appearance. This design served as a basis for another lot of engines delivered the year following.

However, coincident with the delivery of the second lot of engines in 1903, the "Big Four" also ordered for service between Indianapolis and Peoria for the Peoria & Eastern R. R., a group of Atlantic type engines. These were a bit different in that they had the large single window in the Brooks cab and a rather high tender. They were undoubtedly capable of doing the service intended but the "runners" on that road, accustomed to engines with only 68″ drivers were a bit fearsome of these high wheelers. Whether the 10″ difference in driving wheel diameter would have enabled them to have selected a that much softer spot to land, in case of accident, can be left open to question, but, we do know these engines were with-

drawn from this Peoria-Indianapolis run and used on the "Big Four" proper. No doubt all of these Atlantic types gave good service but with the increased length of passenger trains they were supplanted by the Pacifics and ten years after their introduction, some of them were on the Toledo to Cincinnati service.

One item is worthy of mention—it was always easy to tell these "Big Four" engines at night as they were equipped with a very powerful electric headlight which cast a very long and large beam in front of the engine. The sight of that beam as it slowly crept around the corner upon entering the tracks of the Union Station at Toledo was always a welcome sight for the weary traveller upon his return to Detroit and Ann Arbor. If not footsore from his travels in Toledo, perhaps a bit tired of waiting for an overdue train marked on the bulletin board—On Time!

New York Chapter Notes

By L. B. GNAEDINGER

MEMBERS of the New York Chapter of the Society learned some of the history of the Delaware, Lackawanna & Western Railroad in entertaining fashion on a trip by special train from the company's terminal in Hoboken, N. J., to Scranton, Pa., on July 19. The journey marked the centennial of the opening of the Morris & Essex Railroad, which forms a part of the Lackawanna's main line across New Jersey.

Horses pulled the first Morris & Essex train, which probably consisted of one or two cars, when service was started between Newark, N. J., and nearby Orange on Nov. 19, 1836. The train in which the Chapter traveled to Scranton comprised five steel cars, including two of the Lackawanna's latest type of air-conditioned coach and diner—although, as a gesture to history, it was drawn by a locomotive which in a few years probably will have disappeared from the rails.

The locomotive, temporarily restored to main line service at the request of the Chapter, was built in Schenectady, N. Y., by the American Locomotive Company in June, 1910. Of the 4-6-0 wheel arrangement, it has two cabs, one in the centre of the boiler for the engineman and one on the boiler head for the fireman. This design was common on some Eastern lines a few decades ago and came to be known as the camel-back, a name previously used to describe some of the engines designed by Ross Winans for the Baltimore & Ohio Railroad.

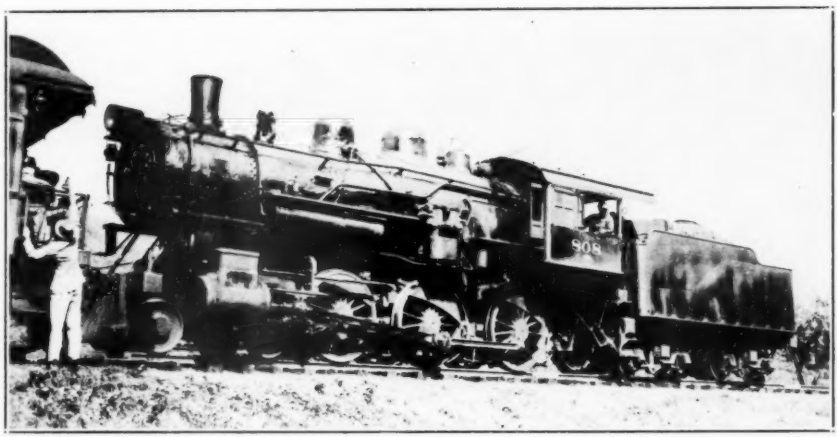
No. 1035, as she is known on the Lackawanna today, was one of a lot of nineteen and numbered 47951 by the maker. Of these, Nos. 1031 to 1036 remain in service. Equipped with the wide Wootten firebox, which necessitated the double cabs, it generates steam at 200 pounds. Its drivers are 69 inches high and its weight is 225,000 pounds.

No. 1035 walked away with the steel cars. Near Washington, N. J., it covered a slight upgrade of 28 miles in 26 minutes, according to the timing of the members. The return trip from Scranton to Hoboken, 135 miles, was made in three hours, an average of 45 miles an hour.

About 150 persons were on the train. Of these, 137 were non-railroaders—a tribute to the interest in railroads shown by the public. Six-

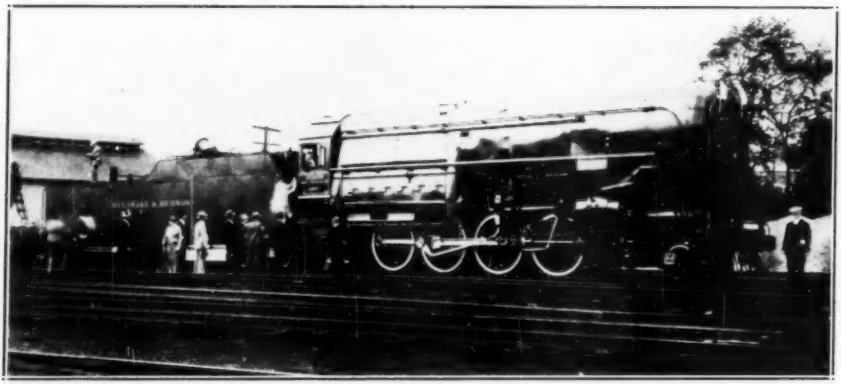
Courtesy of T. T. Taber.

D. L. & W. #1035 and Special Train at Washington, N. J.



Courtesy of T. T. Taber.

We Take on a Helper—N. Y. C. 808, formerly U. & D. #30.



Courtesy of T. T. Taber.

D. & H. #1402—"James Archbald" at Oneonta, N. Y.

Courtesy of C. B. Chaney.

D. & H. #607 on first section ready to leave Oneonta, N. Y.

teen railroad men from lines other than the Lackawanna were in the party, besides a group of Lackawanna men which included a half-dozen retired enginemen. The latter expressed satisfaction at the performance of No. 1035.

The passengers were enabled to study history en route by means of a brochure prepared by T. T. Taber, former chairman of the Chapter, who has arranged many train inspection trips for the members. This was the first time, however, that the Chapter engaged a special train. The booklet, which was distributed by the Lackawanna management, described points of historical interest, their distance from Hoboken and the time when the train was scheduled to pass them.

The train ran over the Morris & Essex from Hoboken to Washington, N. J., thence over the D., L. & W. to Scranton.

On reaching the Newark station a few minutes out of Hoboken, the members could learn from Mr. Taber's booklet that they were standing near the original terminus of the Morris & Essex, the starting point of the first, horse-drawn, train and, a year later, of the "Orange," first locomotive on the line, a diminutive 4-2-0 mechanism built by Seth Boyden, of Newark. When the train tackled a grade of 61 feet to the mile a short time later, the brochure noted that the ratio was 140 feet in 1836.

Four miles from Newark and the special had reached Orange, where ended the run of the first M. & E. train. Not long after, it ran through Madison past the site of the home selected by T. B. Annin, former secretary of the Chapter, because of its unobstructed view of passing trains. Mr. Taber's home also is in Madison.

Dover, forty miles from Hoboken, was reached by the M. & E. on Aug. 1, 1848, when the company started service with two passenger trains and one freight "with passenger car attached" daily between that point and Newark. It is now the western limit of the electrified zone. Farther on the party could see the old Morris Canal, predecessor of the M. & E. in that region and long since abandoned, roughly paralleling the track. At Washington, 69 miles from Hoboken, reached by the M. & E. in 1864, the party could observe the old embankment which formerly took it over the D., L. & W.

The party disembarked for a few minutes at Washington to take pictures of the train and crew and themselves. From that point the M. & E. runs to Phillipsburg, 81 miles from Hoboken, which it reached in 1865 over a temporary track.

Leaving Washington on the old line of the D., L. & W., the special passed through the Oxford Tunnel, built about 1852. Originally, it accommodated two tracks, but larger locomotives necessitated its conversion to single track. There are spring switches at each end of the tunnel and a No. 19 order is required by extra trains using it.

The train reached Scranton soon after luncheon, moving through the city down the Keyser Valley branch to the Lackawanna car shops about two miles away. There the party inspected the facilities for the building of freight and other cars and devices for the reclamation of oil waste.

The train was then backed to Scranton, where the Lackawanna management provided an exhibit of locomotives covering many years of devel-

opment, from the tiny No. 7, an 0-4-0, which headed the display, to the huge No. 1650, a 4-8-4, latest and largest on the Lackawanna roster. All the engines on display received attention from the photographers of the party.

In the shops and enginehouse could be seen locomotives receiving different classes of repair. The forging shops offered an unusual exhibit of locomotive parts and tools in various stages of completion.

In the laboratory maintained by the Lackawanna at Scranton—an example of the newer forms of railroad enterprise—J. J. Laudig, the company's research engineer, had on display a collection of about 100 old photographs of the products of the Brooks Locomotive Works. These were lent by John Holmes, assistant to the manager of the American Locomotive Company's plant at Dunkirk, N. Y.

The photographs were printed by the "gold tone" process, one now obsolete and always requiring expert treatment, but one which produced unfading images. A timetable in use on the Erie Railroad in 1851, when its western terminus was Dunkirk, also was on display.

In Mr. Laudig's office were a pair of massive door knobs in the shape of lions' heads, used originally on the doors of the Brooks company's main office in Dunkirk about 75 years ago. These Mr. Laudig found on the doors of a shed for fire hose, whence they had been taken from the old office building when it fell into disuse years ago. Lions' heads were used by the Brooks company as their emblem.

The Chapter joined in the sponsorship of the "second railroad wonder trip" over the West Shore, Ulster & Delaware, Delaware & Hudson and New York Central railroads on Sept. 20. More than 700 persons filled two special trains on this trip. They left Weehawken, N. J., on the West Shore after inspecting engines lined up for them there, reaching the U. & D. at Kingston, N. Y., where they were welcomed to the Catskill Mountains by Mayor Heiselman and other officials.

The journey over the U. & D. offered the party many fine mountain scenes and an opportunity to observe short line railroad operation quite rare to city dwellers. They saw at Arkville, N. Y., where the Delaware & Northern joins the U. & D., a 4-4-0 engine built by the Baldwin Locomotive Works in 1904 and still in use on the D. & N.

At Oneonta, the train reached the yards of the Delaware & Hudson, where W. J. Coughtry, Chairman of the Chapter and Recorder of the D. & H., had arranged for an elaborate display of locomotives and shop facilities. The locomotives included the advanced high-pressure types evolved by the D. & H., latest of which generates steam at 500 pounds pressure, triple expansion being provided by two pairs of cylinders, placed at either end of the engine.

The boiler house and locomotive repair, car building and carpenter shops and the oil and waste reclamation plant were among the facilities to hold the attention of the visitors. From Oneonta, the train ran over the D. & H. to Albany, thence over the Hudson River Division of the New York Central to the Grand Central Station in New York.

Members of the chapter traveled also on a special train over the Lehigh Valley on Oct. 25 to Sayre, Pa., where the company's locomotives and shops were viewed.

Worth Reading

(Compiled by ELIZABETH O. CULLEN, *Reference Librarian*, Bureau of Railway Economics, Association of American Railroads, Washington, D. C.)

BOOKS AND PAMPHLETS

A Brief History of the Florida East Coast Railway and Associated Enterprises—Flagler System—1885-86- 1935-36, by Florida East Coast Railway. 31 pp. Map and illustrations. St. Augustine, Fla., Florida East Coast Railway.

The Canadian Pacific—A National Institution, prepared by J. Harry Smith. 15 pp. Illustrations. Montreal, Press Bureau, Canadian Pacific Railway. "A brief summary of the company's history delivered as an address before the officers, February 1935, in the 50th year of Canadian Pacific service to Canada."

Churchill and the Hudson Bay Route. 48 pp. Illustrations, fold. map in colors. Ottawa, Canada, Dept. of Railways & Canals. "Earlier history (1610-1847)" pp. 3-23. "Later history (1886-1935)—Railway to Port Nelson. . . " pp. 23-48.

Development of Draft Gears for American Freight Cars, by Wm. F. Gray, and C. W. Messersmith, 149 pp. Illustrations. Research series No. 54, Engineering Experiment Station, Purdue University, Lafayette, Indiana. "History of development of draft attachments for freight cars", pp. 4-21. 46 draft gears described.

The History of Transportation. 46 pp. Illustrated. Omaha, Nebraska, Railway Educational Bureau. Its Instruction paper, Unite H A.1.

The Hudson Bay Route and Port of Churchill—The Shortest Route to Europe from Canada's Central West. 56 pp. Map and illustrations. Regina, Saskatchewan, Minister of Highways and Transportation.

John Stevens' Documents Tending to Prove the Superior Advantages of Railways and Steam-Carriages Over Canal Navigation. 1812. Reprinted under the joint auspices of the Baker Library, Graduate School of Business Administration, Harvard University and The Railway and Locomotive Historical Society, in honor of Harvard's tercentenary.

National Conference on Transportation, Massachusetts Institute of Technology, June 8, 1936, Alumni Day. 5 addresses (mimeographed): *Current Trends in Air Transportation*, by Col. E. S. Gorrell; *Highway Transport*, by Edwin W. James; *Pathways of Transportation*, by J. Monroe Johnson; *The Problem of Our Common Carriers by Water*, by Edward P. Farley; *The Railway Outlook*, by Col. Chas. D. Young. Printed in Technology Review (Massachusetts Institute of Technology), July 1936, pp. 385-410, together with *The Engineer in Transportation*, by Joseph B. Eastman, (his address at Alumni Dinner, June 8).

A National Transportation Policy, by C. S. Duncan. 315 pp. New York, London, D. Appleton-Century Co., Inc.

New Types of Light Weight Passenger Trains. 41 pp. Statement No. 3639, Bureau of Statistics, Interstate Commerce Commission, Washington, D. C. Includes tables showing names of trains, cost, weight, type, manufacturer, etc.

On the Railroad, by Robert S. Henry. 21 pp. Illustrated, color illustrations by Otto Kuhler. Akron, Ohio, The Saalfield Pub. Co. Primarily for youngsters and for sale in ten-cent stores.

A Pioneer Southern Railroad from New Orleans to Cairo, by Thomas D. Clarke. 171 pp. Map and illustrations. Chapel Hill, University of North Carolina Press. "The traveler who today rides in ease and comfort on the Illinois Central from New Orleans to Cairo, little dreams of the obstacles—physical and political—which confronted the pioneer builders just a century ago. . . " p. 13.

Proceedings of the 42d Annual Meeting, The American Association of Railroad Superintendents, Chicago, Illinois, June 16-18, 1936. 276 pp. Illustrated. St. Louis, Mo., F. O. Whiteman, Secretary of the Association. "Meeting to-day's demands" was the keynote of the reports and addresses.

Proceedings of the 37th Annual Convention of the American Railway Engineering Association . . . Chicago, Illinois, March 10-12, 1936. 1085 pp. Illustrations. Chicago, American Railway Engineering Association. Another important contribution to what might be termed "history as one goes along". *New Opportunities of the Railways*, by Ralph Budd, pp. 59-64.

Railway Wonders of the World, edited by Clarence Winchester. Consulting editor, Cecil J. Allen. 50 parts. Illustrations including portraits and maps. London, The Amalgamated Press Ltd. Paged continuously.

Universal Directory of Railway Officials and Railway Year Book 1936-1937, compiled from official sources under the direction of The Editor, of The Railway Gazette, London, England. 602 pp. London, England, The Directory Publishing Co., Ltd. " . . . In the new edition opportunity has been taken to include a chronological list of outstanding events in railway history . . . Changes in organisation have been carefully noted during the year, as, for example, the nationalisation of the Turkish railways . . . " p. 2.

The Use of Electric Power in Transportation. 61 pp. Washington, D. C., Federal Power Commission, being its Power series No. 4, National Power Survey. Maps show steam railroad electrifications in various parts of this country.

PERIODICAL ARTICLES

American Trains hold World Speed Records. Maximum of 127.2 *m.p.h. Made by a Pennsylvania Train in* 1905 *Still Stands Unbeaten.* "The World's Fastest Runs"—tables, pp. 583-585. Railway Age, April 4, 1936, pp. 583-586.

Developments in the Speed of Passenger Train Service in the United States, by W. H. Ott, Jr. A. T. C. Bulletin, May 15, 1936, pp. 298-302, 310-311.

Early Wind-Tunnel Studies for the Railroads, by L. W. Wallace. By Dr. W. F. M. Goss at Purdue University in 1896. Mechanical Engineering, September 1936, pp. 598-599.

North America's Mile-A-Minute Trains, by Donald M. Steffee and G. H. Burck. Railroad Stories, October 1936, pp. 20-37.

Passenger-Train Length, Speed and Horsepower—A Study of What Increased Speed Costs in Sacrifice of Revenue Space, by P. A. McGee. Railway Age, June 13, 1936, pp. 945-946.

Railroad Research Problems, by L. W. Wallace. Proceedings, Railway Club of Pittsburgh, February 27, 1936, pp. 88-111. Discussion pp. 111-117.

Railroads and Government—Showing the Status of the Railroads and Their Services in the United States and Four Other Countries, with Emphasis on the Question of Government Ownership, edited by G. Lloyd Wilson. Annals of the American Academy of Political and Social Science, September 1936. (264 pp.)

Railway Speed Development in 1935. 1.—*Great Britain and Ireland.* 2.—*North America.* 3.—*Germany.* 4.—*France, Belgium and Denmark.* [5]—*A Summary of the Mileage Figures,* by Cecil J. Allen. Railway Gazette, January 31, 1936, pp. 218-219; February 21, 1936, pp. 350-353; March 6, 1936, pp. 476-478; March 27, 1936, pp. 630-632; June 19, 1936, pp. 1168-1170.

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Trains of Today—and Tomorrow, by J. R. Hildebrand. Illustrated. National Geographic Magazine, November 1936, pp. 535-589.

What's New In Railroading? Presidents of Seven Lines Explain Innovations to 500 *Members and Guests of the Traffic Club of Chicago.* " . . . seven lines": Santa Fe, Burlington, Illinois Central, Rock Island, Chicago Great Western, Chicago & North Western, Milwaukee. Railway Age, May 30, 1936, pp. 882-884.

New Books

A PIONEER SOUTHERN RAILROAD, Professor Thomas D. Clark, University of Kentucky, Lexington, Ky. 171 pages, 8 in. by 5½ in. Illustrated. Bound in cloth. Published by The University of North Carolina Press, Chapel Hill, N. C. Price $2.00.

New Orleans owed her commercial supremacy to the Great Mississippi River and its tributaries. This mighty transportation route tapped the great mid-west and north-west and New Orleans prospered. With the coming of the railroad—when our eastern seaboard lines finally tapped this rich mid-western country, then New Orleans took alarm and realized that the great nature-made transportation route was not enough.

The agriculturally-minded slaveholders, skeptical merchants and farmers of the South could see but little value in a railroad as compared to the Great River. The tight-fisted local bankers caused the promoters to seek funds in Europe. Finally Mississippi repudiated its English bonds and this made the situation hopeless. For a time the matter lay dormant, but in 1848, Mobile, Alabama, proposed to build a railroad from that city to Columbus, Kentucky, and under the stinging lash of competition the New Orleans group resolved the time had come for the construction of their road.

Local conditions did not favor construction. Distances were great, swamps were many and treacherous and before the work could be completed Fort Sumpter had been fired upon and the nation was disrupted with internal strife. Rusty tracks, vacant bridges, disabled locomotives and equipment confronted the owners after the war and again they set about the task of rebuilding. Finally came the consolidation, 1877, and the roads were welded into the Illinois Central System and New Orleans, after struggling for forty years against great odds had direct connection with the west and the north-west.

The roads making up this chain of railroads were the New Orleans & Jackson; Canton & Jackson; New Orleans, Jackson & Great Northern; Mississippi Central; Mississippi Central & Tennessee and the Mississippi & Tennessee Railroads. Prof. Clark has given briefly the history of each in its turn. The history of these southern roads is difficult to find and the author deserves much credit for contributing this story of railroad development in the South.

CLAUDIUS CROZET, by Colonel Wm. Couper, Executive Officer and Histriographer, Virginia Military Institute, Lexington, Virginia. The Historical Publishing Co., Inc., Charlottesville, Virginia. Price $2.00. 221 pages, 9 in. by 6 in.

In this book Colonel Couper has related the interesting life of a French officer who came to this country and circumstances brought him to the State of Virginia where his work has left a profound impression in the land of his adoption.

Born at Villefranche on December 31, 1789, Crozet was graduated from the Polytechnic School of France on October 1, 1807 with a commission of sub-lieutenant. From there he went to Metz where the famous School of Application for the Artillery and Engineers had been established and on June 9, 1809 he was graduated and commissioned as a second lieutenant in the Battalion of Pontonniers. He served with distinction under Napoleon and in 1812 was assigned to Marshal Ney's division of the Grand Army that invaded Russia. In the disastrous retreat he was captured and did not return to France until Napoleon had abdicated. On March 20, 1815 Napoleon arrived at the Tuileries and as he entered Paris the Bourbon King fled. Crozet and others rallied to the support of their Emperor and during the Battle of Waterloo was engaged in bringing ammunition to the Emperor. Had not the bad roads delayed him, the story of Waterloo might have been different. He could not conceive of France without Napoleon and so, in 1816, he set out for America.

The year 1816 was important in the life of Crozet for in that year he left the army, married and emigrated. In the United States, the year 1816 marked the passage of the act by the legislature of New York to construct the Erie Canal; the inauguration of regular steamboat service on the Mississippi River; the establishment of the second Bank of the United States; the establishment of the State of Virginia for a Board of Public Works and lastly the rejuvenation of the Military Academy at West Point. It was here that he found his first employment as assistant professor of engineering. Handicapped by lack of text books he was the first to use the blackboard for descriptive geometry. He brought to West Point many of the good points of the great French school and this influence is now perpetuated in bronze on the grounds of the Military Academy.

Crozet resigned from the Military Academy on April 26, 1823 and became the Principal Engineer for the Board of Public Works of the State of Virginia. Here he laid out routes, highways and canals from the seaboard to the western country. Virginia was backward in comparison with other seaboard states in the matter of transportation and through the influence of Joseph C. Cabell, the canal policy was adopted rather than the railroad policy advocated by Crozet. Crozet felt his defeat keenly, later events proved that he was right and on October 28, 1831, submitted his resignation to Governor Floyd which was accepted.

In the spring of 1832 we find Col. Crozet as State Engineer of Louisiana. In this position he investigated and advocated the building of a railroad from New Orleans to Tennessee. The climate of the low lands not agreeing with him, he resumed his profession of education and became President of Jefferson College, a new institution at Convent, La. For three years Crozet remained at Jefferson College—three years when railroad construction was sweeping the country. The State of Virginia saw it also and the brains and hands of the old master were sorely missed. On April 5th, 1835, Col. Crozet was again appointed Principal Engineer for the State of Virginia.

In the six intervening years, the state had greatly increased her joint ownership with private individuals in various internal improvements. Crozet's task was difficult because it was a part of his work to report annually for conserving these state properties. For twenty years we find him working on the internal improvements of that state and his greatest work was the construction of the Blue Ridge R. R. through the mountains. Altho' only seventeen miles long, the survey indicated that four tunnels must be constructed, a stupendous problem for 1849. It was not until Christmas Day in 1856 that the tunnels were finally "holed through" but the work stood as a monument to the genius of Col. Crozet.

In his last days Col. Crozet made his home with his daughter Claudia, in Richmond and it was in that city on January 29th, 1864 that he passed away. Thus passed away a great soldier, scholar, educator and engineer! Col. Couper has detailed with great care the life and work of Col. Crozet and to those of us who are interested in the building of our early railroads the book has a strong appeal.

ON THE RAILROAD, by Col. Robert S. Henry, illustrated by O. Kuhler. 23 pages, 12¼ in. by 10 in. Published by the Saalfield Publishing Co., Akron, Ohio. Price 10c.

Altho' written primarily for children, this account of the work involved in train operation cannot but help interest those who have not forgotten their boyhood love for the locomotives and trains. The story is well and simply told, the colored illustrations beautiful! Nothing better could be given a boy for Christmas and if your local five and ten cent store cannot supply you with a copy, address the publishers direct.

In Memory of

ALONZO P. WEEKS

Annual Member

2 Pine Street

Winchester, Massachusetts

Who died on October 14, 1936.